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SOUND SHAPES

LEGENDARY DEVELOPER TETSUYA MIZUGUCHI ON HOW MUSIC IS EVOLVING

DEVELOP:BRIGHTON ■ ID@XBOX ■ HEROIC LABS

AT A GLANCE

JUNE 9TH

DIRT 4

Codemasters signature rally series returns with a track generator

JUNE 16TH

ARMS

Duck & weave, punch and... Punch. Nintendo return to motion controls

JUNE 30TH

CRASH BANDICOOT N.SANE TRILOGY

Sony's mascot gets a spruce up

JUNE 30TH

STARFOX 64

Happy 20th Birthday to Fox McCloud and Lylat Wars!

DIARY DATES

E3 2017
June 13th-15th, Los Angeles Convention Center, LA, US
e3expo.com

JUNE

AppsWorld Evolution
June 13th-15th ExCeL, London
tmt.knect365.com/apps-world

Irish Symposium on Game-Based Learning 2017
June 22nd-23rd, Clayton Hotel, Cork, Ireland
www.igbl-conference.com

Game QA and Localisation Europe 2017
June 27th, Mercue Hotel Moa, Berlin, Germany
gameqaloceurope.iqpc.com

UK tech post-Brexit: Investment, influence and policy priorities
June 27th, Westminster, London
westminsterforumprojects.co.uk/conference/britain-technology-17/23890

Pocket Gamer and VR Connects San Francisco 2017
June 27th, Bespoke, San Francisco, California, US
pgconnects.com/sanfrancisco
vr-connects.com/ sanfrancisco

EVENT SPOTLIGHT

2017 GAME DEVS OF COLOR EXPO
Where: The Schomburg Center for Research in Black Culture, New York, NY, US
When: June 24th
New: Panels, talks and playable games, open to all.
gamedevsofcolorexpo.com

COMING SOON

DEVELOP #184

THE BEST OF BRITISH ISSUE

We celebrate the best of what UK game development has to offer and prepare you all for the Develop:Brighton conference and the Develop Awards this July.

DEVELOP #185

THE STORYTELLING ISSUE

Video games can succeed and fail on the quality of their narrative design, so we dedicate this issue to interviews with and advice from the industry's best storytellers

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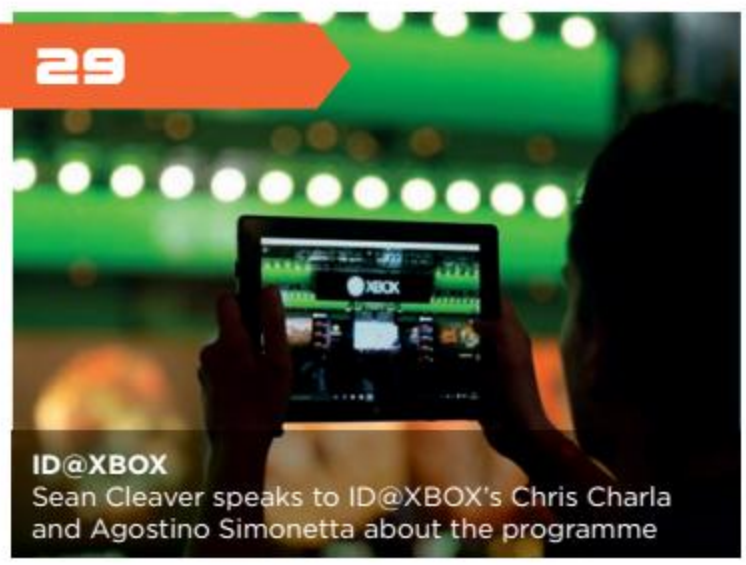

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Editorial

It's that time of year again. E3 seems to come around quicker every year. It's been five years since I last attended but I'm certain that nothing will have changed. For better or worse.

E3 always has a special buzz about it. Even on the developer side of the fence. Or perhaps *especially* on the developer side of the fence? For some of you, you'll be revealing projects you've already sunk months and/or years of your life into.

It's not as exciting as launch day, maybe, but fan response to a big announcement can help propel you through the rest of the development process. Or at least a few months of it.

This month's issue focuses on audio and features an interview with Tetsuya Mizuguchi, who I have called a "legendary developer" several times within this magazine.

> **The time to play is over. The time to salivate over what we'll be playing in half a year begins now.**

Chatting to such huge inspirations for so many people in this industry is one of the greatest things about working on Develop. Especially when they give such great interviews as Mizuguchi. His perspective on music in games is truly unique and I encourage you to check out the feature (**page 11**) and his talk at Develop:Brighton next month.

E3 kicks off a summer of events that continues with Develop:Brighton, Gamescom and Tokyo Game Show (is that still going..?).

The time to play is over. The time to salivate over what we'll be playing in half a year begins now. After the last nine months, I still have plenty to catch up with. Good job more and more games are releasing on Switch. Especially with all that travel ahead of us.

Jem Alexander
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FOR **LOCAL** PEOPLE

Local multiplayer is coming back, and it's bringing friends. **Jem Alexander** contemplates how his social gaming habits are changing and whether it could be an industry-wide trend for the better

I've always been more of a solo gamer. I had one controller for each of my consoles growing up, and that suited me absolutely fine. For me, games are about experiencing a narrative, and if someone wanted to share in the experience with me, I was happy to let them watch. Quietly. Friends stopped coming over after a while.

Not to say that I've never played multiplayer games. There's a time and a place for everything, and eventually as I grew up and there was more and more alcohol involved with my social interactions, *Timesplitters 2* became a big part of my life. Lots and lots of *Timesplitters 2* as well as its sequel *Future Perfect*. Both near-perfect games. *Smash Bros.* too, of course (*Melee* only, we were very much a no-*Brawl* household). A lot of *Red Faction* too, for some reason, which was less perfect but allowed you to blow the levels to bits, meaning I could finally supplement my meaningless slaughter with a touch of interior decorating practice. *Huge* time saver.

Mario Kart 64 (retro, even back then) would make an appearance every now and then, too. And I enjoyed it in that same way you 'enjoy' sambuca shots when you do them with friends. I enjoyed spending time with people more than I enjoyed actually playing. All of these games were split-screen, of course. We're talking pre-internet here. You had to inhabit the same meat space, which feels weird in a world of "what are you doing here get out of my house and hit me up on PSN so we can frag some newbs". Which is definitely how the kids speak now.

But then it stopped. After the internet hit consoles, I stopped playing games with friends, either locally or online. I focused much more on the single-player experiences and that lasted basically until a year or so ago. Because (and yes, I'm finally hitting my point in paragraph four) I believe that we're entering a new golden age of local multiplayer. And even a solo gamer like me is getting swept up.

COUCH SURFING

It's bizarre to me how much more fun I am finding local multiplayer recently. And considering my distaste of racing games, and my inability to truly understand the appeal of every other Mario Kart title, it's fascinating to me that it's *Mario Kart 8* on the Switch which has reinvigorated the love of local multiplayer that I lost a decade ago.

But *Mario Kart* isn't the only game that's contributed. *Overcooked* is a truly fantastic little game that has something very special about it. Just as I was leaving the house to attend a BBQ hosted by Seth Barton, editor of our sister magazine MCV, I was sent an all-caps text to "BRING A PS4 CONTROLLER FOR *OVERCOOKED*" and I rolled my eyes as I acquiesced and I hoped nothing would come of it. Because sometimes, when you work with games every bloody day, the last thing you want to do in your downtime is have to actually play something. But those four hours of non-stop *Overcooked* ("just one level") during the twilight hours of Seth's BBQ was one of the best social gaming experiences I can remember. Even in mixed company of both gamers and non-gamers.

But it's *Mario Kart 8* on the Switch, specifically, that tells me this could be the start of something bigger. Nintendo has always been about social gaming – enjoying games with anyone within a ten foot radius – and wow does the Switch capture that better than the Wii ever did.

> if you promise to feed me cooked meat, I will go anywhere

BRING YOUR OWN SWITCH

It was at another BBQ this weekend (main takeaway from this article: if you promise to feed me cooked meat, I will go anywhere) that I really saw the true power of the Switch in terms of its local multiplayer offerings. The way three Switches can transform from a three-player to a six-player experience so seamlessly is frankly astounding.

Playing three-player with a Switch each is exactly what I hoped the PlayStation Vita experience would be back in 2011. Perfect for a private match while everyone else talks about babies or handbags or whatever adults discuss. And then, when everyone else has departed and it's just the hardcore left, you can throw one Switch onto the big screen while four others play on the remaining two in stand mode. Sure, there's some huddling involved, but it works and it's fun and it's easy.

And we played for hours. I've played more local multiplayer in the last six months than I have since I was 17. Which is fantastic! I truly hope developers jump on this and create more unique local experiences like *Overcooked* or *Lovers in a Dangerous Spacetime*. If you are, then please make sure to get in touch. I want to write about your game.

But if *Mario Kart 8* on Switch is enough to make me a franchise convert, I can't even imagine how mind-blowing *Smash Bros.* could be. ■

TO BE THIS GOOD TAKES

SEGA®

It may be an old advertising slogan for the Mega Drive (or Genesis for American readers), but **Sean Cleaver** thinks the planned revival of Sega IPs could be great – if they are done properly of course

Even I got a bit caught up in the hype for the Nintendo Switch. And yes, I finished *Breath of the Wild*. Finally. After three months. But, I am not a classic Nintendo fan boy. I was, and still am, a Sega fan boy. That is because I was an arcade kid.

I talk with Xbox later on in the magazine where programming on a Commodore 64 is mentioned and it threw me back in to my own past. I loved the arcades. Take me anywhere near a seaside town and I'll be out, scouting for a *Sega Rally* unit or hoping there'll be a classic cabinet somewhere like the wire-frame *Star Wars* or *OutRun*. My introduction to gaming was the arcade and it saddens me that a similar kind of entry isn't available for children today.

Because this was back in the late 80s to early 90s, home computer gaming was incredibly different and, of course, utterly disappointing. I have nightmares of loading up *Chase H.Q.* on to my second hand ZX Spectrum via a tape, driving on that ghastly toxic yellow road and your black car responding only to the hardest of pressure on the < and > keys. But we enjoyed it because it was the late 80s and arcade conversions were the closest we would get to reliving the holiday memories. And frankly, there wasn't that much else to enjoy.

When the Master System and Mega Drive came along (second hand, naturally), I was replete with the titles I'd grown up with in as close a parity to the now aging cabinets. *Altered Beast*, *Wrestle War* and *Golden Axe* were now in my hands and on my TV until 6pm when we had to stop for parents to watch the news.

It's possibly for this reason that I started collecting Sega games (a habit I've recently rekindled to the detriment of my wallet), and the recent news from the Sega financials reports that reviving old IPs is one of the company's key business interests for the next few years has me utterly delighted.

But I'm also sceptical. In a recent online editorial I asked if this is the time for new IPs and I stand by that. A revival of titles in Sega's back catalogue would mostly be nostalgic, and as long as its nostalgia is done well, I can be happy. *Sonic Mania* is a great example of a game that knows what it is and benefits massively from that. At every point I've been able to get my hands on it, it's played well and felt like the *Sonic* games of old (thanks to Christian Whitehead's Retro Engine), but not in a way that makes it stuck in the past.

Nostalgia is a tricky beast. Games like *Mother Russia Bleeds* and *Bloody Zombies* very much play on the love for side scrolling beat 'em ups. *Streets of Rage*, possibly my favourite game in the genre, has never returned despite a few cancelled attempts. Both the PS2 update of *Altered Beast* and the Xbox 360 release *Golden Axe: Beast Rider* were largely forgettable too.

I'm sure I'm not alone in my love for Sega's classics and we're surely overdue a return of *OutRun*. But the idea of reviving classics for commercial gain fills me with equal delight and trepidation. Maybe its because I've seen it all before.

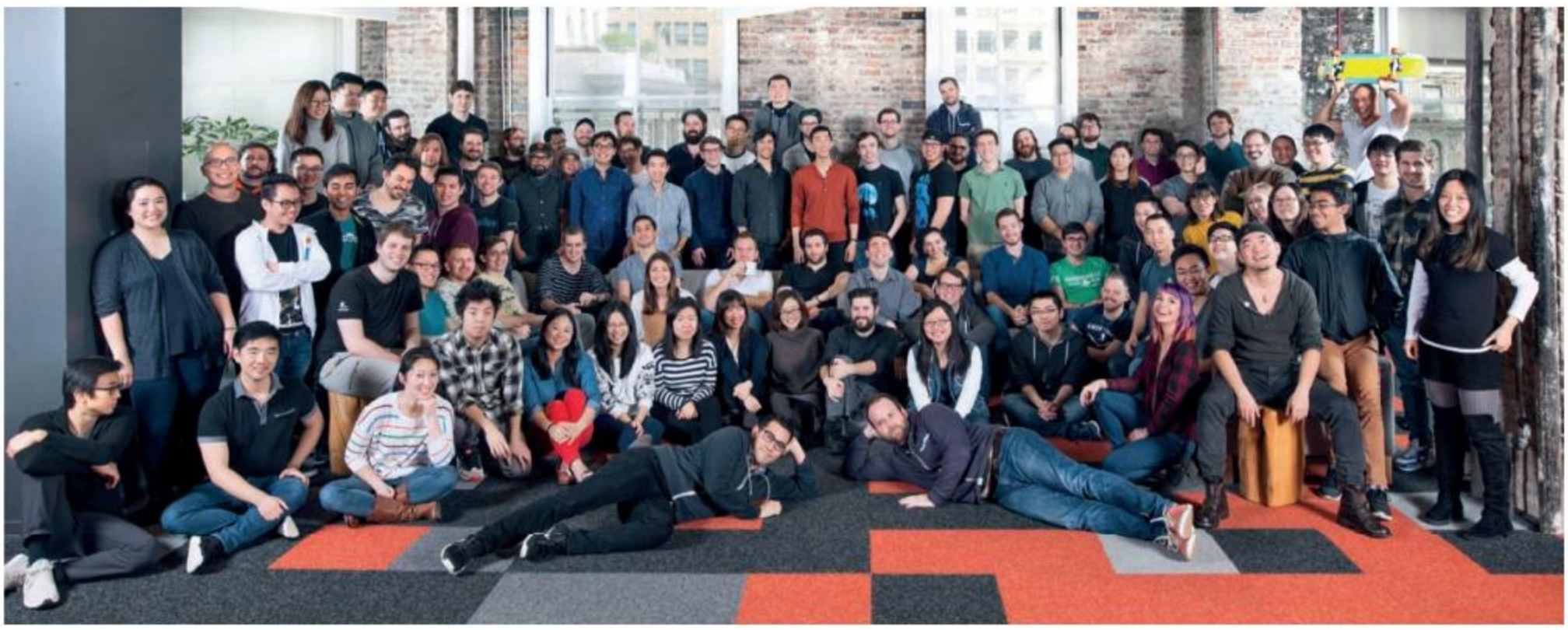
> **Reviving classics fills me with equal delight and treipidation**

Remember *Dungeon Keeper* on iOS? Remember *Tony Hawk's Pro Skater 5*? Gaming history is littered with games that either didn't change enough to be relevant or just wildly missed any mark whatsoever. All of them are known IPs that had the potential to get big money.

This is my main worry as, despite this being a business, recent times have indicated that people will not tolerate anything that comes up short and for Sega to be so blunt in their target of 2020 for these games, means that doesn't leave much time.

If games are planned thoroughly, true to the source material and developed well enough to be fun on a modern gaming system, then this will be excellent. Switch's portable nature might well be a key factor in this as it's tailor made for those shorter two player Sega arcade experiences.

It's a hard one to call because while the future of gaming needs to be forward-thinking and creative, there's certainly a place for classic games to shine in the current market. But can the reality match the fantasy in mine, and many others head? Hopefully. It is only three years, and after all – to be this good takes ages. ■



SOLVING THE DESIGN HIRING PROBLEM

Jon "Swede" Selin, VP of design at Pocket Gems, guides us through his hiring process for new designers

Many studios struggle with properly evaluating game design candidates. I've spent over a decade hiring designers at companies like CCP Games and, more recently, for a new hardcore studio that we're creating at Pocket Gems. During this time, I've crafted and iterated on effective hiring procedures and tests.

My process involves finding the design qualities your company needs, then building an interview slate around those qualities.

If you have a career development track or detailed job descriptions you probably already have a decent list to start from, not to mention your company values. The qualities you'll want to test for will differ wildly from company to company. For example, at Pocket Gems we care a lot about our entrepreneurial spirit, so we test for the following qualities (which might be inconsequential or even harmful to other organizations):

- Leans toward action (prototyping) over deliberation
- Proactively seeks out and solves problems outside of area of responsibility
- Can iterate on and simplify designs while retaining design goals
- Understands and respects the difference between designing for depth vs complexity

But you don't just want culture qualities. This is about hiring for game design after all, so you might be looking for things like:

Don't be afraid to make an exhaustive list of qualities. At Pocket Gems, we have something like 70 qualities that we strive to test for during the interview process. This is also where you should hone in your specific designer needs. For example, if your organization is heavy on analyst-type designers but low on empaths, you should define the desired qualities in your next hires that will bring balance to your team.

DESIGN THE SLATE

Make sure to split your interviews evenly across the qualities you want to test for. A lead designer interview slate could look something like this:

1. System design
2. UX/UI design
3. Balance and parameters
4. Low-level mechanics
5. Social systems
6. People management

There should be no accident what questions a candidate is asked. It should always be the same set, designed to get a read on the qualities you've defined. At a larger company with many candidates coming through, you'll need multiple people trained on doing each interview. For example, you might have three different designers that all know how to ask the "balance and parameters" questions. It's critical that you always ask the same set of questions so that you can get a consistent read on candidates. Make your questions about solving specific, real problems. If you ask open-ended questions, the only thing you learn is whether the person is a good interviewer and what their tastes are.

When interviewing someone, you should always make the interview as close as possible to the work the candidate would be doing. What does that mean for game design? Have them solve design problems of course!

This means that for the balance and parameter interview, we might have you whiteboard or use an excel sheet to solve an actual balance problem or improve an economy model. For a low-level mechanics interview, we have you collaborate with one of our designers on designing a kit for a character or unit in a game. It's critical that the problem is specific- we don't say "design a character for a game," instead the candidate and interviewer decide on a specific game that they both have deep domain knowledge of and design a unit for that game. We're trying to simulate a real working environment with two designers solving problems inside a product they know well.

DO A WRITTEN TEST FIRST

Finding a good designer that meets your project's needs is hard. Many developers interview huge swathes of candidates, which can be time consuming and resource intensive. To combat this, I always put a design test first in the hiring process. These tests can take two to eight hours to complete, but only five to 15 minutes to review, allowing us to assess a large volume of candidates while still understanding their profile and skills.

Writing the test questions, follow the same pattern as the onsite questions. Make them:

- Specific
- About solving design problems
- Map to qualities relevant to you

We let the candidate pick from a list of games that we have tests prepared for. I've found that around five to six tests of genre-defining games that are relevant to your company is enough for anyone applying to have a good enough understanding of the game to take the test. In the test we might ask them to add or remove a specific feature to the game, or give them a design for a piece of content with a lot of clear problems in it and have the candidate redesign it. ■

A SHORT ARGUMENT FOR SHORT GAMES

MIKE BITHELL considers the place of smaller, two-hour experiences in an industry full of 40+ hour epics

Fullbright's *Gone Home* is a great example of a short but satisfying experience

I remember my first visit to the USA as an adult. I went to a breakfast place, and ordered eggs, pancakes and a side of potatoes. As a charmingly naive Brit, I was expecting a large breakfast, but when the waiter wheeled out plates of nine inch pancakes, mounds of eggs and at least three potatoes chopped and fried, I was terrified. I ended up taking most of that breakfast away in a doggy bag. That was all I ate for the day.

Humans like value. Bigger is better. In American dining, that arms race of scale was pushed so far that ordering too much food to eat in one sitting got normalised to the point that you're expected to take food home with you.

PC and console games followed the same path. While the price of a NES game was more than a modern day open world release, the expectation of scale has grown exponentially. Unlike movies, where duration is strictly held in place by screen turnaround time and the noble desire to sell popcorn, no cap has held our gluttony for content in games at bay. And arguably, we shouldn't be held back! We want value, if the industry can deliver that value, then why not?

In short, I challenge the assumption that time spent equals value. We see a bunch of content in modern games that feels like filler, or is absolutely designed to be missable. Is a game 'better' if it lasts 30 hours instead of 20? It's certainly a factor in selection between competing games at the store: how much fun you'll get for your cash. But is it the absolute design and development principle we believe it to be? When the audience for games was predominantly cash strapped teens, value was a big deal, but now? Gameplay content is wise to the aging audience (parenthood as viewed through the lens of zombie outbreaks, anyone?) but unwise in the scale of that content. Does a parent who connects with *Horizon Zero Dawn*'s themes of compassion and responsibility have the time to enjoy all its side quests?

Many indie developers are already proving that there is an audience for one-sitting games. Games like *Her Story*, *Gone Home* and burgeoning VR experiences take one or two hours to tell a compelling story with fascinating original gameplay. *Portal*, a three hour AAA game produced by a major studio, rightly makes it onto many best of all time lists. I don't feel I was cheated out of value by these games, indeed, creative pricing means that many of these games feel like bargains. Thanks to digital distribution, and the lowered costs of sale, price points that fit shorter games are becoming viable. Platforms like Humble and Itch.io are going even further in supporting easy distribution of smaller games.

> **I challenge the assumption that time spent equals value**

A lot of people are starting to mutter in meeting rooms about the 'Netflix of games'. We see XBox heading in that direction with their Game Pass, and we can assume other platforms will try for the same play. If gaming is about to become, at least in part, a capped spend per month, then the old value arguments soften on a game by game basis. There will be a place for games that get to the point quickly, and provide satisfaction within a single session. Less risky for the devs, and a 'must play' for gamers.

There is a tendency among devs to think in absolutes, so let me be clear, I'm not calling for an end to epic games. My argument is for a diversity of experiences, a range of games at differing price points and durations, even more so than we have currently. While there has yet to be an enormous break out hit at a $5 price point on PC and console, I see no reason a polished, 'must play' game couldn't redefine our idea of what's possible with a one or two hour long game. There's an opportunity there. ■

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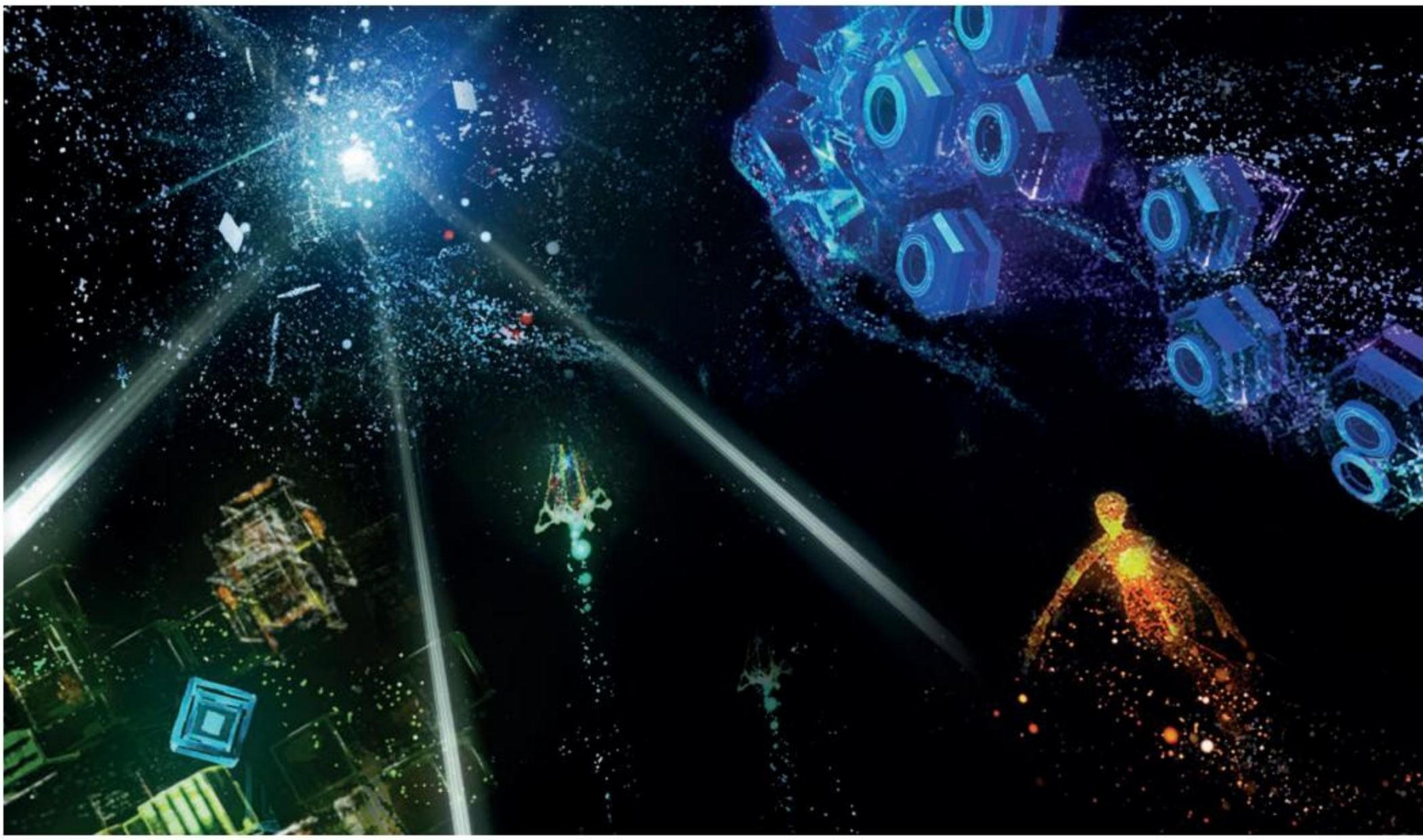
SYNAESTHESIA

As game technology advances we are experiencing a merging of the senses. **Jem Alexander** talks to legendary developer Tetsuya Mizuguchi about the integration of music in games and how that will evolve with VR



Tetsuya Mizuguchi has a unique perspective on the role of music in video games. Many of his titles, like *Lumines* and *Child of Eden*, have a strong emphasis on interactive soundscapes, with players affecting the music through their actions.

Mizuguchi strives to create a deeper level of synchronicity between the player and the soundtrack with his games. Experiences that are a step removed from the more traditional rhythm-based titles you find in the music genre.

"The majority of music games fall into the category of 'rhythm based' or 'time based'," Mizuguchi says. "That's not where my interest is. Rather, it's more about how the layering of music with visuals changes the world that you're in. And that becomes an experience in and of itself."

The industry has come a long way in terms of the ability for games to deliver music to the player. It's not rare for triple-A experiences to have a full orchestral soundtrack, or include contemporary popular music. Mere decades after sound design in games was considerably more lo-fi.

"In the early days we were talking about beeps and bleeps," Mizuguchi says. "That was the extent of what we could do with sound and music in games. But as the years went by, we were gifted new ways to advance that from a technological standpoint. The expression that music brought to the game experience was heightened in a way that you were able to produce sound and music that were more organic and really heightened the emotional element."

> **For me, it's about using games to really maximise the power that music holds**

It's this emotional connection that Mizuguchi is chasing when he makes his games. "Music has this power," he says. "We talk about the power of music and how it affects us emotionally and how it moves us and influences us. So for me, it's about using games to really maximise the power that music holds. That's the role that music plays in my creations."

INTERACTIVE AUDIO

The interactive nature of games gives them a unique ability to create that connection with the player, especially when they have a hand in creating the audio they are hearing. This differs greatly from other media, such as film.

"You're either experiencing music in a third-person or first-person perspective," Mizuguchi says. "What I mean by that is that in non-game experiences you're basically being fed the music that is coming at you, so you're receiving it in a third-person manner. But when you're playing a game, the interaction with music is that you're part of it. Not only are you a part of it, but you may be affecting or creating part of the musicality. And that's a huge difference, between hearing music versus being a part of it. So for me, I'm constantly thinking 'what is this bridge that could make it possible to go back and forth between those two experiences?'

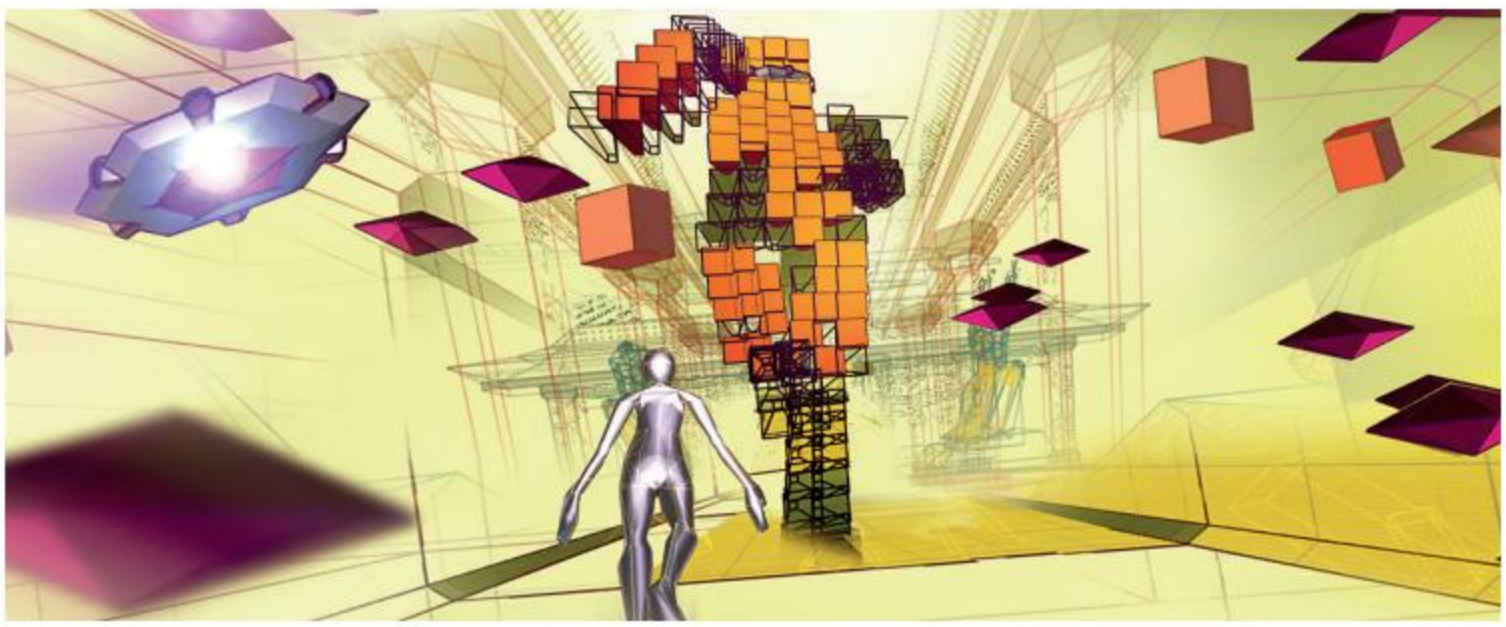
"Maybe there's a new type of experience that can be designed where we blend the two. Maybe there's a chemical reaction where something magical happens and you're able to blend those two perspectives."

This experience of playing with music is not something that necessarily suits a realistic game scenario, however. The effect is more akin to a trippy dream. "Music helps the player experience something that feels like your imagination is being played out," Mizuguchi says. "It's more of a dreamy world scenario that is happening as you play the game. So for game ideas that I have, the role of music is to be used in that manner and to not be just played as your typical rhythm-based game.

"It's something that is a newer level of fantastical experience. I feel like the industry that we're in, the interactive entertainment industry, brings new possibilities for the role of music. When I think about that, it excites me to think 'what is that scenario' or 'how do I illustrate that possibility' or 'what is it that's going to really help me get to that point of creating or designing a new experience?'."

For Mizuguchi's latest game, *Rez Infinite*, his team created a new level for *Rez* while modernising the entire experience. This new level, Area X, is the closest he feels he has come to his goal of reaching this new level of emotional synaesthetic fantasy.

"Area X is a brand new level which



was made from the ground up for *Rez Infinite*. As you work your way towards the ending of that level, especially when you play it in VR and you're in 3D, that whole experience is a display of how powerful music is being expressed in a way that really brings out the emotional side of it. As you play, the sound effects that you are creating through your actions turn into music and it's almost opera like.

"That's the most succinct example of what I've always wanted to do. When people play it, I think they 'get it'. When I compare it to the reaction of people when they have played *Lumines* or *Child of Eden* for the first time, there has been a very obvious and clear difference between them and when I see people playing Area X for the first time. The emotional element, people being moved by playing and clearing that level, is very obvious to me.

"We've actually seen people being so moved by it that, to me, that is a demonstration of what I have been wanting to do with whatever new creation I've worked on in my entire career. So it's a great display of what we are able to do and Area X has really helped me see that through by seeing the reactions of people who play it."

EMOTION ENGINE

This emotional connection is helped by *Rez Infinite*'s use of VR technology. This gives developers a new playground in which to experiment with technologies which have already been perfected in traditional games.

"I feel like in terms of 'producing music and integrating it into the game', it feels like we may have reached its peak because we're so there in terms of the quality," Mizuguchi says. "It's so high. I don't know how much more there is to push. But moving into the future, if you bring in the idea of 3D, whether it's in VR, AR or MR, that audio and visual experience is not just your simple calculation of 'how much more can we add', but the true power then becomes more of a multiplier.

"There's so much more to come. It's only the beginning for us and we still have more to go in terms of how we express through the power of music.

"Up until now, so let's say pre-VR, but also just in a very general sense, there are compartments. There's a visual component (that goes here), and there's an audio component (that goes there), and there's maybe a dialogue component (that goes somewhere over there). It was basically trying to integrate all of these elements and communicate that to the end user, but you had to do that in a given frame. The delivery method was that 2D frame experience. So whether you're talking to film directors, artists, sound designers or cinematic directors, any expression they came up with, they had to fit in that frame.

> **I feel like VR is going to actually go back to a more pure version of what our imagination is**

"But when you think about your imagination, a human's imagination, they're not divided into those buckets. They're very pure and multi-modal. It's a mixture of all of these senses that you have as an idea in your head, but in order to try and express that you have to break it down into those categories. But now, I feel like VR is going to actually go back to a more pure version of what our imagination is.

"With *Rez* and a lot of our creations, we use the words 'synaesthetic experiences', where it's the sensory experience of multiple senses triggering each other. Where we say 'you can almost see the music' or 'hear what's in front of you'. In essence we are saying that the audio and visual components are now one and they're not separated at all. That integration and that blended experience is something that is going to be even more possible to execute thanks to the technology that has brought us VR today. I am continuing to think about and have ideas about how to really bring those experiences alive in VR."

Tetsuya Mizuguchi will be giving a talk at Develop:Brighton, where he will discuss his time in the industry, his inspirations for the games he makes and what sort of experiences he hopes to create in the future. Make sure you don't miss it!

develop

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INDUSTRY EXCELLENCE AWARDS 2017

After an unprecedented number of nominations for the Develop Awards this year, we've finally completed the nigh-impossible task of whittling them down to a shortlist. Behold! Your Develop Awards 2017 finalists:

CREATIVE ACHIEVEMENT

NEW GAMES IP
- Horizon Zero Dawn - Guerrilla Games
- Overcooked - Ghost Town Games
- Dawn of Titans - NaturalMotion
- Yooka-Laylee - Playtonic Games
- Virginia - Variable State
- Snake Pass - Sumo Digital
- Frontier – Planet Coaster
- Inside - Playdead
- Little Nightmares - Bandai Namco
- Human Fall Flat - Curve Digital

ANIMATION (NEW FOR 2017)
- Horizon Zero Dawn – Guerrilla Games
- Blackwood Crossing – PaperSeven
- Yooka Yaylee - Playtonic
- Virginia - Variable State
- Total War: Warhammer - Creative Assembly
- The Sexy Brutale - Cavalier Games
- The Witcher 3 - Blood and Wine - CD Projekt Red
- Planet Coaster - Frontier

VISUAL DESIGN (NEW FOR 2017)
- Horizon Zero Dawn - Guerrilla Games
- Forza Horizon 3 - Playground Games
- Halo Wars 2- Creative Assembly
- Yooka-Laylee - Playtonic Games
- Batman: Arkham VR - Rocksteady Studios
- The Witcher 3 – Blood and Wine - CD Projekt Red
- Virginia - Variable State
- Dawn of Titans - NaturalMotion

MUSIC DESIGN (NEW FOR 2017)
- Horizon Zero Dawn - Guerrilla Games
- Forza Horizon 3 - Playground Games
- The Sexy Brutale - Cavalier Games
- Virginia - Variable State
- Planet Coaster - Frontier
- Sniper Elite 4 - Rebellion
- Hue - Fiddlesticks Games
- PlayStation VR Worlds - Sony Interactive Ent.
- Total War: Warhammer - Creative Assembly
- Get Even - Bandai Namco

SOUND DESIGN (NEW FOR 2017)
- PlayStation VR Worlds - Sony Interactive Ent.
- Until Dawn: Rush of Blood - Supermassive
- Forza Horizon 3 - Playground Games
- Halo Wars 2 - Creative Assembly
- Sniper Elite 4- Rebellion
- Battlefield 1- EA DICE
- Stories Untold - No Code
- Planet Coaster - Frontier
- Batman: Arkham VR - Rocksteady Studios

BEST WRITING (NEW FOR 2017)
- Horizon Zero Dawn - Guerrilla Games
- Torment: Tides of Numenera - inXile Ent.
- Sunless Sea - Failbetter Games
- The Witcher 3 - Blood and Wine - CD Projekt Red
- The Sexy Brutale - Cavalier Games
- Stories Untold - No Code
- The Bunker - Splendy Games
- Blackwood Crossing - PaperSeven
- Batman: Arkham VR - Rocksteady Games
- Get Even - Bandai Namco

BEST PERFORMANCE
- SIGNA (Inside) - Playdead
- Anna Acton (Hue)- Fiddlesticks Games
- Doug Cockle (The Witcher 3 - Blood and Wine) - CD Projekt Red
- Larry Fessenden (Until Dawn: Rush of Blood) - Supermassive Games
- Jon McKellan (Stories Untold) - No Code
- Adam Brown (The Bunker) - Splendy Games
- Mark Hamill (Batman: Arkham VR) - Rocksteady
- John DiMaggio (LEGO Dimensions Adventure Time Level Pack) - TT Games
- Brian Blessed (Loco Dojo) - Make Real

PUBLISHING HERO
- Team17
- 505 Games
- Curve Digital
- Sega Europe Ltd
- All 4 Games
- Kiss Ltd
- Wales Interactive

PUBLISHING HERO (CONT.)
- Dovetail Games
- Devolver Digital
- ID@Xbox

MICRO/START UP STUDIO
- Splendy Games
- Ghost Town Games
- Variable State
- Fiddlesticks Games
- No Code
- Ant Workshop

INDEPENDENT STUDIO
- Supermassive Games
- Playground Games
- Playsport Games
- CD Projekt Red
- Playdead
- Sumo Digital
- Rebellion
- Frontier

IN-HOUSE STUDIO
- NaturalMotion
- Creative Assembly
- Rocksteady Games
- Reflections, a Ubisoft Studio
- TT Games
- Guerrilla Games
- Team17
- Jagex
- Dovetail Games

NEW STUDIO
- Cavalier Games
- Ghost Town Games
- Variable State
- Playtonic Games
- Playsport Games
- Splendy Games
- Fiddlesticks Games

Early bird on tickets and tables end soon – book today: www.developawards.com

SPECIALIST CONTRIBUTION

CREATIVE OUTSOURCER - VISUAL & DEVELOPMENT

- Multiple projects - Axis Animation
- Lost (Amazon Lumberyard) - Realtime UK
- Hybrid Wars (Wargaming WG Labs) - Flipbook
- Virginia - Pink Kong Studios
- Multiple projects - d3t

DESIGN & CREATIVITY TOOL

- Popcorn FX - Persistant Studios
- Dehumaniser - Krotos Ltd
- WWise - Audiokinetic
- GameMaker Studio - YoYo Games
- Maya 2017 - Autodesk

TOOLS PROVIDER - PRODUCTION

- Favro
- Perforce Software
- Persistant Studios
- Plan of Attack / Amazon Game Studio
- YoYo Games

ENGINE

- Amazon Lumberyard
- Guerrilla Games (Decima Engine)
- Epic Games (Unreal Engine)
- YoYo Games (Gamemaker Studio)
- Unity

SERVICES

- Audiomotion Studios
- Flipbook
- Formosa Interactive
- GameDev Network Limited
- d3t
- Player Research
- Red Kite Games

QA & LOCALISATION

- Allcorrect
- Jinglebell Localization
- LocalizeDirect Ltd
- Lollipop Robot
- Testronic
- MoGi Group Ltd
- Testology
- VMC
- Universally Speaking

RECRUITER

- Aardvark Swift
- Amiqus
- Avatar Games
- CV Bay Ltd
- Datascope Recruitment
- OPM Response
- Skillsearch Games & Interactive

CREATIVE OUTSOURCER - AUDIO

- Side UK – Battlefield 1
- Submersion Audio – Robo Recall
- Nimrod – Horizon Zero Dawn
- Sounding Sweet - Forza Horizon 3
- 93 Steps – Ride 2
- Soundcuts Ltd – Sunless Sea
- Formosa Interactive – Multiple projects
- Sweet Justice Sound – Multiple projects

TECHNOLOGY PROVIDER

- CD Projekt Red
- Dimensional Imaging (DI4D™)
- Epic Games
- Multiplay
- OptiTrack
- Speech Graphics
- Spirit AI
- Tazman-Audio Ltd

STUDIO OF THE YEAR

- Supermassive Games
- Guerrilla Games
- Playground Games
- Sumo Digital
- Creative Assembly
- CD Projekt Red
- Team 17
- Rebellion

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DEVELOP:BRIGHTON

It's almost that time of year again; the Develop:Brighton conference kicks off next month. **Jem Alexander** speaks to Andy Lane, director at Tandem Events, about the event's legacy, this year's format and its future

How and when did you first get involved with Develop:Brighton?

We launched Develop:Brighton back in 2006 so this will be our 12th year. I've worked within the games industry for many years and it came about from talking to developers and going to other events. I'd run ECTS & GDC Europe in London and while London is a great city, we felt that it lacked an element of community feel.

Creating an event in Brighton was a bit of a gamble but we reasoned that Brighton is a creative city, it's not that much further to travel, it offers a relaxed vibe which is great for networking outside of conference sessions, there's plenty of accommodation to suit all pockets, and it meant people could come, stay a few days and feel part of the whole community while they're there. I'm pleased to say that all the reasons for taking a bit of a punt on Brighton back then are still true today and are what's helped cement its reputation as the place to go.

> **We set out to create an event that's relevant to everyone within games development**
>
> *Andy Lane, Tandem Events*

How has the event changed since you started working on it?

We set out to create an event that's relevant to everyone within games development from the smallest studio to the largest developer. We wanted it to be inclusive and that's why the expo has always been free to attend. And it was essential that it mirrored industry developments & tackled the key industry issues. In those respects the event hasn't really changed.

But in terms of the industry, it's a very different place today than 12 years ago. And in the same way that the industry has changed, so has the content. We've seen two console cycles, the arrival of smartphones, the rise of indies, VR, AR & MR, the emergence of esports – there have been many, many changes.

As ever, it's a balancing act to make sure we appeal to everyone in game development and to ensure we cover the latest hot topics but not to the detriment of anything else. We're lucky that we've got a great team, we've got a lot of industry experience between us and we've got an active Advisory Board to help keep us on the straight & narrow!

Where do you feel Develop:Brighton is headed and what is guiding you there?

We'll continue to evolve just as the industry evolves. We all know that 18 months can be a long time in game development so it's hard to predict.

What I can say is that Brighton & July won't change ... but the content & format will do from year to year.

How is this year different for Develop:Brighton? What have you done differently?

We've introduced more 'visionary talks' from the likes of Tetsuya Mizuguchi, Graeme Devine, Ken Purlin, Brenda and John Romero – some really great names with tons of experience behind them. We've streamlined the number of tracks to make it easier for people to pick out the sessions that are most relevant to them.

Seven years ago we introduced the Indie Dev Day along with the Indie Showcase and this year we've incorporated those sessions into the overall conference programme, plus we've introduced a Micro Indie rate for game dev studios of 4 people or less.

As I mentioned, the expo has always been free to attend and this year we've added some additional free talks within the expo alongside the Indie Bootcamp sessions, so there are now more reasons than ever to come down.

> **This year we've introduced more 'visionary talks' from the likes of Tetsuya Mizuguchi, Graeme Devine, Ken Purlin, Brenda and John Romero**
>
> *Andy Lane, Tandem Events*

What are your feelings about Develop:Brighton's place in the UK and global games industry?

I think that's for others to say rather than us. We get great feedback each year (as well as some constructive criticism!) and we take it all on board to help shape future events. We've seen an increase in visitors each year to the point where we now top over 2000 attendees making us the leading game developer conference in Europe.

What is the most valuable thing that developers can gain from attending Develop:Brighton?

One of the great things about Brighton is the mix of people that come down each year. Everyone will have their different reasons for attending. Whether that's indies looking for funding, seasoned developers looking to learn the latest tips & techniques to apply to their next game, publishers looking for content, studios looking to pitch their games, students looking for a career. The list goes on.

Develop:Brighton offers everyone the chance to share their knowledge and experiences, hear the stories behind creating some of the world's bestselling games and learn the lessons of how best to market and promote your game in today's market.

How can developers truly make the most of attending the event?

Plan your time. It may sound obvious but make use of the website to work out which talks you want to see. We've got over 100 inspirational speakers over the 3 days so take time to plan your Develop so you don't miss out.

Use our Meet @ Develop tool to get in touch with people you'd like to meet up with. Don't leave it to chance. Although there are plenty of networking opportunities which are open to everyone, like the IceBreaker Drinks on Tuesday evening or the Expo Booth Crawl for the last hour on Wednesday, the more you can plan, the better your experience will be.

And most of all, enjoy it. There's nowhere else in the UK that teems with so many like-minded creative & talented people. People constantly tell us it's one of the friendliest events out there, so make the most of talking to and getting to know your fellow developers. We look forward to seeing you there. ■

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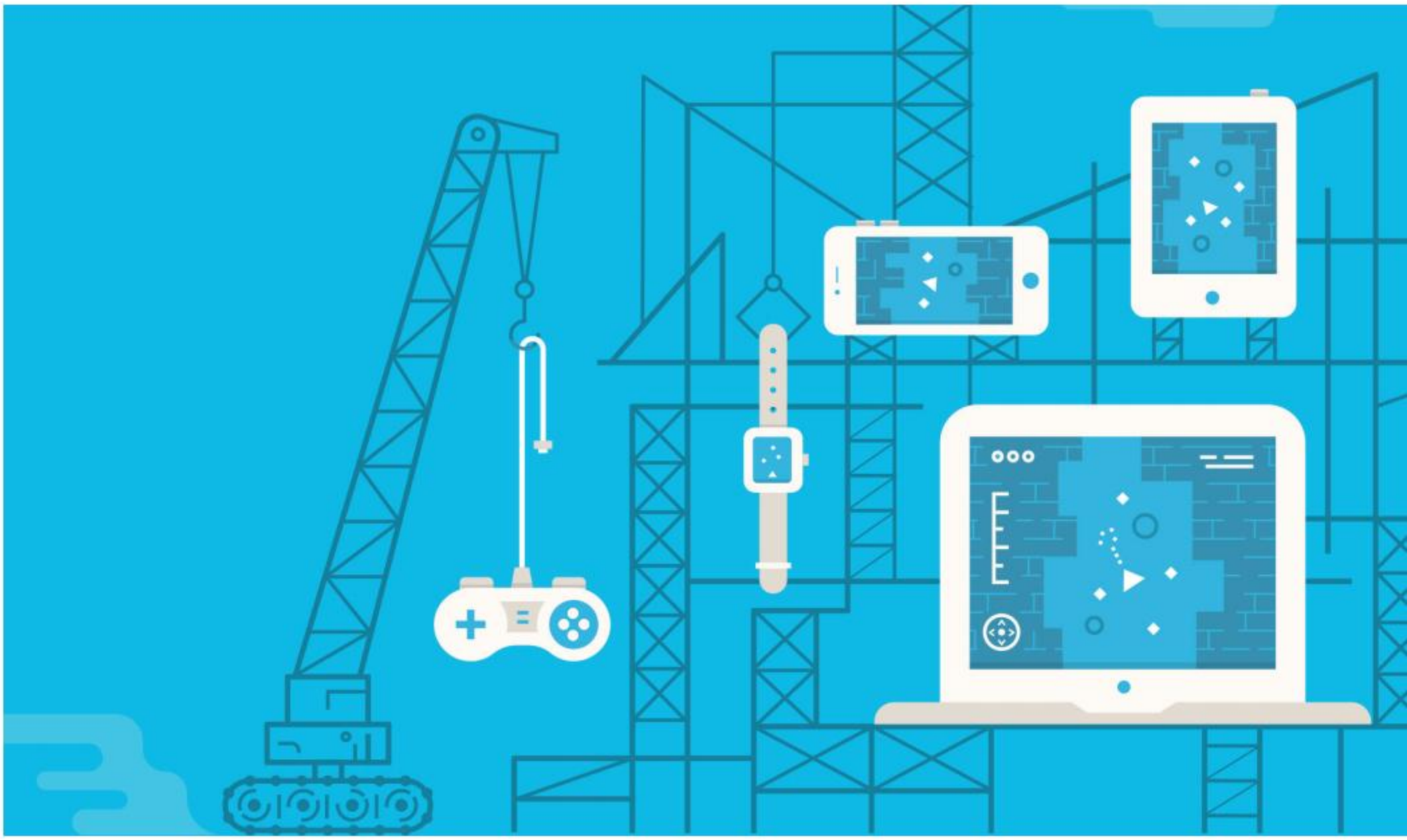
SILVER SERVERS

Heroic Labs is a relatively new company looking to make it easier than ever to include fully functional, scalable multiplayer and social technology in your games. **Jem Alexander** speaks to Alim Jaffer, VP of product, about the company's open-source software and how developers can take full advantage of it



Can you give a brief overview of who Heroic Labs is and why you've created Nakama?
Heroic Labs was founded by three distributed systems engineers from London with the goal of making modern, scalable, social gameplay available to every studio. Just as Unity made it possible for developers to build games across many platforms, Nakama offers developers the opportunity to build games utilising the latest multiplayer and social technologies. By open-sourcing Nakama, we wanted to offer the community both ownership and transparency with their backend infrastructure.

How can developers benefit from using Nakama with their games?
Developers benefit by getting access to a highly scalable system that has been battle tested and proven to work at scale. We've simplified the operational side of things as well - you only need to run Nakama server and one type of database server to power anything from realtime games, turn-based, async PvP, as well as single-player oriented games.

No more reinventing the wheel and spending months building your own backend, by using Nakama developers can shorten their time to market and take advantage of a server that will continuously be updated with new features as the industry grows. The community plays a large role in helping us determine the roadmap for Nakama in order to keep up with the latest in industry trends.

> **Nakama offers developers the opportunity to build games utilising the latest multiplayer and social technologies**
> *Alim Jaffer, Heroic Labs*

Can you give some specific use-cases for Nakama?
As an open-source company our game server is an open technology, there's no lock-in as you would find with software as a service systems. You can download it, modify the code, run it in your cloud of choice or locally in your office. This means you will always have full ownership over your core server technologies.

With Nakama you can build across platforms and genres. We have support for mobile, VR, PC/Steam and, later this year, console support. The server helps you build modern fast-paced shooters, realtime games like *Clash Royale*, as well as many other game types that might only requires user accounts, a virtual wallet and in-app purchase validation.

What sort of games are already taking advantage of Nakama?
We have a variety of studios and publishers in development, soft launch, and worldwide release on Nakama. It can power any type of game from a realtime game such as *Clash Royale* to a more casual social game like *Candy Crush*. We will be officially launching a 1.0 of Nakama in July and we have a roadmap of upcoming features that can be found on the Nakama GitHub issues tracker. We welcome all community contributions and requests.

For developers who do not wish to operationalise their own servers (data backups, logging, waking up at 2am to reboot servers, handling scaling), we offer a Managed Cloud where our team of engineers will manage your deployments for you. It's similar to running bespoke pieces of infrastructure on cloud providers such as Heroku and Digital Ocean, but designed specifically for the games industry.

What does the future of Nakama look like?
The future of Nakama is based on how the industry shifts in response to consumer demand. We truly believe in the open-source nature of the technology, and want the community to be as involved as possible in helping guide its vision based on future games.

We see a lot of potential in the future of augmented reality, location-based gaming, esports and the continuing growth in mobile games and entertainment as a whole. Our philosophy is to always keep Nakama as simple as possible to not only develop with, but also to operationalise. We don't believe in

feature-gating, or locking out developers from being able to build the latest and greatest in games.

Can you talk around the cross-platform and interconnectivity aspects of Nakama?

Nakama can integrate with existing tech stacks in live games to introduce new features, such as in-game chat, to games that already have a player base and are looking for new ways to engage their players. We also have a plugin system in development which allows developers to pipe out data to any business intelligence system of their choice - from analytics, ads, internal data science teams and so on. We feel it's very important for developers to own their data and be able to do what they wish with it.

We have first-class clients for Unity and Unreal engine support, with native support for iOS, Android and more coming soon. The more demand we get for specific platforms, the higher we'll prioritise it on our roadmap.

What are the potential esports applications of Nakama? What other emerging areas of the games industry would this fit?

Esports is a fascinating field. It could easily hit parity with modern sports, and even surpass them in the next five to ten years. With that in mind, it's important to realise how competitive the field will become for both games and the competing players.

Nakama can be run on-location for esports events, meaning that event organisers do not need to worry about the quality of the network connection at the event and any latency concerns.

This simplifies running eSports events, particularly in countries with poor internet, as well as offering transparency and a standard upon which developers can build their games. We have plans in the future to introduce some anti-cheat technologies to the server and are very interested to meet developers who are working on esports titles.

Another interesting use-case for on site deployments of Nakama is the advent of VR Arcades. We're working with a partner in Japan who is making some of the first multiplayer-oriented VR Arcades. We don't believe these will come to the West any time soon, however it's a unique angle on the future of gaming and is one piece of making 'social' VR mainstream.

What advice would you give to developers looking to take advantage of Nakama?

The best advice is to read the documentation in depth and get comfortable with the clients. And then, get involved in the community. We have an active community channel with many contributors who are always asking questions and helping each other with any issues they find. We would love for that to continue to grow.

One of the benefits of being open-source is that developers can get deep into the codebase itself and learn why the server operates as it does, this makes integrating even easier when you understand the core server and the underlying API's.

What excites you personally about the future of games?

For me, it's the future of the games industry and the toolchains that support it. In the early 2000s, there were many, many game engines built in-house. This gave some studios the edge over others, but it also brought upon them technical debt, difficulty in onboarding new hires, and made them slow to adapt shifts in the industry as these custom engines weren't 'productised'. In recent years, games have consolidated around just a few engines and that seems to be working rather well for everyone - we're in a golden age of beautiful looking games.

We feel the exact same about backend infrastructure. For some studios it gives them a massive edge in the industry - look at what Supercell has done with *Clash Royale*. They've dominated the charts with their realtime games and now everyone is rushing to play catch up.

With Nakama, no one needs to build their own infrastructure from scratch, which results in everyone being on the same level playing field. This opens up innumerable possibilities for the industry, and I'm very excited to see what both established developers and newcomers do with it to build the next generation of games. That's what drove us down the open-source route, to make a large impact in how games are made and to open doors to new possibilities. ■

EXPLORING THE ALL-NEW UNREAL AUDIO ENGINE WITH EPIC GAMES

Epic Games' technical sound designer, Dan Reynolds, discusses what's new with the Unreal Audio Engine, how it integrates with third party tools and what to expect in future versions of Unreal Engine

First revealed in early 2017, the new Unreal Audio Engine that now ships with Unreal Engine 4 is giving developers the ability to deliver a much broader variety of sound and music experiences than what's possible using a traditional hand-authored approach, with incredible control over those results.

The Unreal Audio Engine, available in early access starting with Unreal Engine 4.16, is positioned to empower developers interested in designing procedural sound and music systems or developing audio tools and plugins.

Thanks to a tight integration with game logic and design systems, the Unreal Audio Engine empowers designers to create custom sound and music systems as simple or as sophisticated as desired because it is all driven by UE4's native Blueprint visual scripting.

Using Blueprint-driven real-time sound synthesis and digital sound processing (DSP), developers can design sounds with near-infinite variety and create music systems that evolve in theme and variation according to states, environments and user actions in unique ways.

At the same time, the architecture is available for deep integrations of third-party tools and systems. Developers wishing to modify the Unreal Audio Engine can now extend the featureset and, if desired, market those plugins to the development community.

Epic Games' technical sound designer Dan Reynolds recently answered a few questions about the Unreal Audio Engine.

WHAT'S AVAILABLE NOW WITH UNREAL AUDIO ENGINE IN 4.16?

In Unreal Engine 4.16 we are excited to grant early access to the brand new Unreal Audio Engine featuring real-time synthesis and digital signal processing (DSP) as well as a brand new low-level signal flow architecture.

In addition to backwards-compatible support on all older audio engine capabilities, features currently include a new Submix Graph, which offers greater command over the audio mix with surround bus destinations and sends as well as new surround EQ, reverb, and dynamics effects; new Source Effects empowering designers with both creative and functional source effect processing chains (Distortion, Chorus, Bit Crusher, Virtual Analog (VA) Filters, Dynamics, Delay, etc.); and real-time synthesis, which gives designers the ability to create procedural sound and music in new and compelling ways.

All of these systems are supported by an internally developed DSP Library which gives developers the power to create their own custom audio effects and synthesizers.

HOW DOES STEAM AUDIO SDK FIT INTO THIS?

Steam Audio SDK is Valve's new audio API for physically-based spatialization and reflection. It includes an HRTF-based binaural spatializer; an indirect reflection and occlusion system which emulates environmental reflections and acoustics; and a baked impulse response (IR) reverb which works by allowing us to create custom impulse responses based on level geometry.

Along with being pretty cool tech on its own, the Unreal Audio Engine has given us the opportunity to refine how third-party tools can plug into it and Steam Audio SDK demonstrates a deep integration with its signal flow. With Valve leading the charge, we are excited to hear how audio developers in the community will take advantage of the new Unreal Audio Engine architecture.

WHAT AUDIO ENGINE IMPROVEMENTS CAN WE EXPECT BEYOND 4.16?

We plan on expanding the Unreal Audio Engine architecture to support features like source effect busses, effect side-chaining (modulation across busses), methods for retrieving audio data for Blueprint use (to enable more visual and gameplay interaction), as well as improvements and optimizations to the current features.

While we haven't pinpointed the specific timeline, we expect to enable Unreal Audio Engine by default sometime within the next six to 12 months. ■

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LEADING **LADIES**

On 19th May we celebrated the achievements of just some of the many fantastic women working in the industry. Couldn't attend? Here's your handy guide for the winners of the Women In Games Awards 2017

Caroline Miller
Businesswoman of the year

"The thing about diversity is equality's not a cake. It's not like if you give some away, you have less cake. There's enough equality to go around. Diversity benefits everybody."

Naomi Kotler
Breakthrough talent

"I played games as a kid, but I didn't realise I could actually have a job in games. Things like game jams and the Young Game Designer competition at BAFTA. That's really important, and will encourage people to get into games.

Rhianna Pratchett
Creative impact

"When we talk about diversity, it's important to say it's not just about women; it's about different ethnicities, backgrounds, abilities, races and ages. So, I think that getting more women involved is vitally important, but it is a broader question.

Natalie Griffith
Career mentor

"We need to accept and appreciate the benefits of having a diverse workforce.
This isn't ticking boxes, this is actually adding value to the industry and ethnic groups.

Lucy Blundell
New development talent

> Developers can make more games about other people to increase diversity. For me, I'm making games about women and girls, and that's already rare enough for some reason. If you have a friend who's from a minority background, just speak to them, and create something different.

Otisha Sealy
Rising star

> The atmosphere of celebration is incredible, it just feels so positive. It's brilliant to be able to connect with so many people within the games industry at once.

Noirin Carmody
Outstanding contribution

> We are beginning to see that the sector is growing, and with that will come both a diverse range of skills and diversity within the gender and ethnic groups.

Veronique Lallier
Esports contender

> I want to inspire women, younger talent, to join this industry. There are a lot of things you can do, and if you love games, then come in. It's awesome!

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CREATION @ XBOX

Sean Cleaver speaks to ID@XBOX director Chris Charla and regional lead Agostino Simonetta

Back in 2014, the Xbox One was not having the best time. Its now infamous launch saw the home entertainment console struggle under the weight of expectation from its core audience – gamers. But hidden away in all of the critical melange was a diamond that has only become more refined as time has gone on.

The ID@XBOX programme is probably something that we now take for granted a bit, given the industry-wide swing to digital distribution. But the programme has not only been an unparalleled success for Microsoft but also for the developers using it. Some of the success stories include the multiple BAFTA award-winning *Inside*, *Never Alone*, *The Escapists*, *Lovers in a Dangerous Spacetime* and *Superhot*.

"It's going super, super well," ID@XBOX's director, Chris Charla, says. "We have more than 500 titles that we've helped ship on Xbox One and Windows 10 through ID@XBOX. We've got more than 2,000 developers with devkits and everything. And developers have earned hundreds of millions of dollars."

ID@XBOX also allows people to publish in different markets, and get Microsoft's help in localising and understanding how different regions operate. To do this, whether in the UK, US or even Brazil, relationships need to be formed with the developer.

"I think what we've done in EMEA is we've gone very, very local," explains ID@XBOX's regional lead, Agostino Simonetta. "The approach we have taken is to build a personal relationship with developers across all the different European countries. Obviously, US and North America has a single language that brings all together. But in Europe we have been very mindful of the cultural language differences, so we've been working very locally with development organisations.

"We've had a partnership with Creative England for probably three years now. With them, we invested over three quarter of a million pounds across several titles. So we're trying to build a personal relationship and trying to help the development community as much as we can."

XNA AND HISTORY

Those of you with long memories will remember that this isn't the first time Xbox has been helping Indie developers get their games to their marketplace. The now discontinued XNA Game Studio allowed developers to publish on Xbox for a price, or Windows for free. When we think back to the Xbox 360 generation, we think of the Live Arcade, but XNA taught Xbox some valuable lessons as to what developers want.

"I think Xbox Live Arcade and then XNA were incredibly pioneering at first in terms of democratising platform access for independent developers," says Charla. "Personally, I look back to that 2008 Summer of Arcade where *Braid* and *Castle Crashers* and *Shadow*

Complex all launched. To me, that was the moment when indie games burst into the mainstream. Obviously there had been independent games for a long time before then, but that was the moment this golden age of indie took off, and I don't think it's slowed down since.

"As we got towards the tail-end of the 360 generation and were getting ready to launch Xbox One, we realised that the pace of change in the independent development community was faster than Microsoft policies had been during the 360 era, so we took a moment, we took a step back and we went out and talked to more than 50 developers. We asked them what they wanted, what they needed, and that input was really what formed the beginning of the programme.

"The thing that we heard loud and clear was that independent developers – to say it now just seems like totally obvious – wanted to be able to self publish their own games and they wanted lots of different features in terms of how the programme worked on the backend, so we took all that input and ID@XBOX is what came out the other side, enabling developers to self-publish.

> **We look at everything, but the best way to get ahead is listening to developers**
> *Chris Charla, ID@XBOX*

"One of the big challenges for a developer going to a console – any console in the past – was actually the entry barrier you have with devkits," explains Simonetta. "Devkits traditionally are a high cost. That was to me the immense barrier for smaller studios that didn't want to have that cost before they got on board. So when ID was designed and created, we gave two devkits for free to all the developers as part of the programme. We have over 2,200 developers today and all of those developing got free devkits from us."

"When you think about XNA versus ID@XBOX, XNA was a great way for people to get going with development," Charla adds. "Today we have the Xbox Live Creators Programme. It's important to us that we now have an option for any game and any type of developer who wants to create using our platform."

SHARING THE DATA

Microsoft has been very keen to help developers, but also stress that part of the success of the programme has been communication and not dictation from the company.

"If a developer comes to us and asks for a piece of advice or asks for feedback on a game, we always provide it," explains Charla. "But if a developer is not interested in that, we don't volunteer it because the industry has changed, and developers are pretty mature and pretty savvy. I think that it's not our job to be providing advice when it isn't asked for."

"One of the things we do on a regular basis to help our developers is host ID@XBOX events, where we share best practises, trends, and everything we learned year-on-year with them," adds Simonetta. "That means they have the best possible intelligence to make an informed decision on what they want to do."

For developers to make these key decisions in regards to development and publishing, they need to know the lessons that Microsoft has learned, and how games are performing, especially those smaller studios that may not have even considered the concerns of releasing a game. "We've learned a tonne," admits Charla. "And we've learned a tonne from listening to developers, and certainly there've been successes. Three of the top eight paid games on the store right now are ID@XBOX games.

"Obviously, video games are a hit-driven business. But it's important to us that we provide a marketplace where every game has an opportunity to perform as well as it can. We try and give developers as much information as we can about how things are selling, what's the best way to make your box art look in order to make it stand out in the marketplace, what's the best day of the week to release, what's the best week of the year to release.

"We've tried really hard to never stop learning and never stop listening to developers about what they want and how we can fix things. Luckily, developers are not shy about telling us how we can do better."

LEGACY

The impact of the ID@XBOX programme on game development is clear. Award winners, surprise hits and great studios have been unearthed because of it. But what comes next, including the creators update, is very important for the future of the programme and the new trends it can support. "We look at everything," says Charla. "But I feel like the best way to get ahead of the market or understand where the market is going is listening to developers. I mean, they're the folks who are at the coalface and feel the trends, sometimes even before they show up, really in the data.

"Obviously, Microsoft has initiatives and we have ideas about where things are going to go and things like that, but for the ID programme, really listening to developers has been the best way to move forward. We really try and listen to users and implement what they want. Backward compatibility came from that. That was something users wanted, and we added it. I think that that's a perfect example of something that we knew we could do."

The creators update in particular is key in democratising the process of game development even more. "I'm old," says Charla. "And when I grew up you would go to Kmart and you'd get a Commodore 64. That was your word processor and your game machine, and that was it. But anybody could make a game on it, and so many great developers got their start on Commodore 64 or Apple II or Spectrum or whatever. And since then, you have PCs now obviously where you can make games, but there hasn't been that kind of thing where you can make a game and just start playing it on your television in a really long time.

> **When you think about XNA, it was a great way for people to get going with development**
> *Chris Charla, ID@XBOX*

"Hopefully, the existence of the Creators Programme is really going to inspire people, both young people and maybe even older people, to just say, 'Hey, I can download this app for free, turn this thing into a devkit, and start making a game?' To me, the act of creation is a reward in and of itself."

For Simonetta though, the impact is a bit closer to home. "I have an 8 year old daughter, my eldest. She's been developing a game from scratch, at school and at home. And then, after GDC, after the Creators Programme was announced, I went back home and I said, 'we can do this from the Xbox. Daddy can help you out, and we can use simple tools and do that.' And I could see myself, when I was 8 years old, on the VIC-20 that came before the 64, actually copying the code from a book in English. We had the bouncing ball on-screen.

"I can see myself in my daughter now. She can actually get the Xbox that she uses to play on a daily basis and create from there. It's really inspiring for that young generation - very, very young generation." ■

BRIGHTON ROCKS FOR GAME AUDIO - AGAIN

Organiser of the Develop:Brighton Audio track, **John Broomhall**, reminisces on the last twelve years of the event as we look forward to another great lineup of speakers at the seaside event next month

It's true - time flies and I find it hard to believe it's twelve whole years since I introduced the very first Develop in Brighton Audio Track and welcomed Marty O'Donnell as our keynote. Sun, sea and sunshine in buzzing Brighton. It was all good. Since then it's been an absolute honour to, year on year, work on and host the day's content for Tandem Events.

Reflecting back, there are so many great memories: the excitement of Jason Page and the PS3 audio tech design team unveiling their brand new technology; a spontaneous round of applause to Rockstar Alastair MacGregor's incredible tech demos - and you could have heard a pin drop when Paul Moore and re-recording mixer legend Tom Johnson discussed the story-telling power of sound; then there was the fire alarm actually going off but my thinking it was a sound effect from the next Powerpoint I was testing (the entire conference ended up on the street opposite the beach for 45 minutes); Martin Stig Andersen blowing minds with his demos of *INSIDE* long before the game shipped – one delegate commented 'I may as well give up now!'; renowned composer Jessica Curry and Dan Pinchbeck on their creative process; Jason Graves sparky presentation on interactive music, Adele Cutting on dialogue and conveying character and emotion through audio, *The Last Of Us*'s Phil Kovats on everything, Tommy Tallarico on even more, Richard Jacques and James Hannigan's music masterclasses, Lydia Andrew on the sonics of Victorian London and aiding player navigation and story through sound, the entire RARE audio team rocking up to speak en masse, esteemed

orchestrator and conductor Allan Wilson putting on an oven mitt to bring out his conductor's baton claiming it was the most dangerous weapon in the music world – 'you can wreak havoc with it'; Pinewood's Glen Gathard on Alien foley; not to mention the numerous luminaries from DICE, Sony's Creative Services Group and Microsoft who have all made fantastic contributions - way too many to mention. In fact, there are umpteen more speakers, sessions and games – each brilliant – I wish I had space to highlight, so my apologies to the unmentioned, but I can assure you, we really appreciate everyone who has made the audio track what it is today.

In an often highly competitive world, it's impressive and heartening how people are willing to share their experiences like this – both learnings from successes – and also from those not so successful paths taken. Maybe that's because many speakers of latter years have benefitted by being in the audience themselves previously. What goes around comes around. Anyway, you have all helped foster a rare and precious generosity of spirit in the dissemination of ideas, advice, lessons learned and future visions.

One thing I can't omit here is the often thought-provoking, visceral and sometimes hilarious Open Mic sessions where everyone can join the conversation somewhat oiled by complimentary cold beer (not sure who's idea that was, but well done whoever you are). Some years those sessions have run on and on and on with this sense that here is a body of people with shared interests and passion for what they do that really wants to congregate and chew the cud – together. And they don't quit. As moderator, and with hotel staff looking twitchy, I've often felt guilty to close it down even though we're way over time because people are obviously up for it. They want to talk, bounce ideas around, argue, concur, question, enquire of their colleagues.

No surprise then that many times this dialogue moves straight to the hotel bar and continues for hours. Maybe this is because for many, working on sound and music for games is a relatively isolated business? Yet game audio is genuinely a community of the like-minded who look out for and encourage each other, freely sharing expertise and experience, as evidenced by manifold email threads on the VGM forum. It seems to me something quite singular about this particular game development discipline. I guess the Develop Audio Track translates that affinity and collegiate vibe to an actual in-person gathering where people find they know each other already from their online discussions. I love it.

Drinking in the collected wisdom of some of game audio's most noted luminaries, I know I'm always going to take away some amazing production revelation or approach I've never thought of, to apply to my own projects. And I'm always deeply inspired by the pioneering creativity our speakers demonstrate. This year's event on Thursday 13th July promises another stellar speaker line-up ready to impart their expertise wrought through years at the game audio coalface. So, if you have any interest or involvement in game audio, music and dialogue or audio programming, there's only one place to be.

Come and be inspired by your peers' game audio journeys both present and future, join the conversation, network with other gamedevs and party by the seaside. I look forward to seeing you. ■

Tom Hays

President, Rocket Sound LLC (USA)
Session: Open Mic 2017

Robert Bantin

Principal Audio Programmer, Codemasters

Session: Open Mic 2017
Descriptor: An inclusive town hall style discussion about the current and future state-of-the-art of game audio.

> I've been to Develop in Brighton for eight years and it's one of the most inclusive, interesting gaming conferences in the world - plus the nightlife is fairly spectacular!
> *Hugh Edwards*

Adele Cutting

Founder & Audio Director, Soundcuts Ltd
Session: Open Mic 2017

> Develop is one of the key events in my calendar, a chance to catch up with the audio community, friends and developers here in the UK. The audio track is a must-see, especially if you're starting out in the industry, as you basically have everyone you could ever wish to speak to in one room at once.
> *Adele Cutting*

Matthew Florianz

Lead Sound Designer, Frontier Developments
Session: The Challenge Of Creating Audio For Planet Coaster (And What You Can Learn From It)
Descriptor: Overcoming some of game audio's most head-scratching challenges, the problem-solving process itself, and examples of specific creative solutions and inventive approaches. Problems, solutions and universal lessons learned.

> I always return from Develop with fresh ideas and the motivation to try and push the boundaries of audio in our games.
> *Stephen O'Callaghan*

Michael Kent

Audio Director, Mass Effect: Andromeda
Session: Mass Effect: Andromeda Audio Retrospective
Descriptor: Mass Effect: Andromeda's AD deep dives on methodologies, vision, strategy and lessons learned during an epic audio production.

Quote: "Looking forward to talking, meeting new game devs, and exploring the UK for the first time."

> Looking forward to sharing what we learned making Battlefront VR, and talking about the future of 3D audio over a brew or two!
> *Jay Steen*

Loic Couthier

Supervising Sound Editor, WWS Creative Services Group - London, Sony Interactive Entertainment Europe
Session: How Audio Pre-Production Can Boost Project Productivity
Descriptor: Wipeout Omega's supervising sound editor on establishing audio direction and maximising production value & efficiency through best practice pre-production.

> I recall Mark Yeend's closing statement in 2013 when he noted that audio quality was no longer an issue. He proposed a need to design systems for audio and think about the mix, propagation and management of sound. Fast forward to 2017 and that's exactly what Frontier's audio systems are doing on Planet Coaster. The keynote back then offered a glimpse into the future and the audio track is great for this kind of foresight, learning, networking and best practices.
> *Matthew Florianz*

Jay Steen

Software Engineer/ Audio Lead, Criterion Games
Session: Star Wars: Battlefront Rogue One: X-Wing VR Mission
Descriptor: How Criterion Games approached adapting the sound of Battlefront to the new medium of VR.

> Super excited to visit the town that is home to the legendary Big Beat Boutique!
> *Jeremie Voillot*

Jeremie Voillot

Studio Director of Audio, Bioware
Session: Interactive Music Masterclass: Designing A Contextual & Scripted Music System
Descriptor: A masterclass on designing holistic and interactive music systems for a seamless musical presentation.

Hugh Edwards

Voice Director, High Score Productions
Session: How To Not Screw Up Your Dialogue Project
Descriptor: A tour of the most common pitfalls unprepared gamedevs encounter on dialogue projects for videogames.

Stephen O'Callaghan

Head of Sound, Tools & Technology, Creative Services Group, Worldwide Studios Europe, Sony Interactive Entertainment Europe
Session: Open Mic 2017

> There are many games industry conferences, but few are just for us – the developers – and none are quite so intimate as this one.
> *Robert Bantin*

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BAFTA SCHOLARSHIPS

The deadline for applications to the BAFTA Scholarship programme is fast approaching. **Develop** looks into what successful applicants could gain and catches up with a few previous BAFTA Scholarship winners

Photo credit: BAFTA/Jaime Simonds

The deadline for the annual BAFTA Scholarship programme is fast approaching, with just one week left to apply (UK – Monday 12th June 2017 / China & Hong Kong – Friday 9th June 2017).

As part of their Learning and New Talent initiative, BAFTA awards three UK nationals 'Prince William Scholarships' to support postgraduate study in film, television or games.

Each BAFTA Scholar will receive up to £12,000 towards their annual course fees, as well as mentoring support from a BAFTA member and free access to BAFTA events around the UK.

Supported by Warner Bros., the successful applicants will additionally receive a short funded work placement within the Warner Bros. group of companies, access to a Warner Bros. mentor, and invitations to a series of industry masterclasses.

Applicants can choose from a list of eligible courses on the BAFTA Scholarship website (courses are required to have received an accredited Creative Skillset 'tick' in order to qualify for consideration). These include specific game courses such as, MProf in Computer Games Development (University of Abertay Dundee), MSc Music and Sound for Film and Games (University of Hertfordshire) and MSc Games Programming (Tech Path) (University of Hull).

Successful applicants from previous years include Liz Mercuri who has just started a role as educational evangelist at Unity and Sam Browne, co-founder of brand new London-based indie studio 'Three Knots'.

Scholar Sam Browne believes his experience with the BAFTA Scholarship programme has been responsible for helping drive his current studio. "The Scholarship has changed my life in numerable ways. I would not have met my business partner if I hadn't been able to attend the school," says Sam Browne, MA in Game Design & Development (The National Film & Television School).

Liz Mercuri agrees: "I quite simply wouldn't be in the awesome position that I am in without the scholarship. I met my current boss through my BAFTA Mentor and the scholarship, through masterclasses and networking events, gave context to my studies," says Liz Mercuri, MSc Computer Game Software Development (Sheffield Hallam University).

Similarly, Scholar Sam Hughes found the connections he made through the programme to be invaluable: "Due to the scholarship, I was able to network with fantastic people within the games industry and I have gotten more work and contacts through the events and initiatives run by the programme. I was on set for *Kingsman: Secret Service* with my awesome BAFTA mentor Simon Hayes. I managed to sit in on sessions and screenings at De Lane Lea, thanks to my WB mentor Helen Alexander. I worked a placement at Tt Games for 3 months after my course, I went to the *Edge of Tomorrow* premiere and the San Andreas premiere, which were awesome. After that I could tie almost every opportunity back to my scholarship." says Sam Hughes, MSc Post Production with Sound Design (University of York).

"Being an outsider without industry contacts makes it impossible to break into the entertainment industry. The BAFTA Scholarship made it happen," says Bradley Morgan Johnson, MA Moving Image & Sound (Norwich University of the Arts).

As part of BAFTA's more recent focus on global links, prospective applicants can also now apply to study at institutions in China and Hong Kong. Supporting UK-Asia cross-cultural exchange, the programme offers British nationals the opportunity to study in China or Hong-Kong and gives Chinese nationals the chance to study as an international student in the UK.

Successful applicants to the China/Hong Kong Scholarship programme receive financial support for course fees and overseas living expenses, as well as mentoring from industry pros and access to BAFTA events. Be sure to apply before the deadline. ■

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- Indie Showcase sponsored by unity
- Game Jam starts
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- Develop Industry Excellence Awards from 7pm organised by NewBay Media
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- Free conference sessions for start-ups

NETWORKING & FUN
- Develop Expo featuring: Networking Bar & Lounge sponsored by UNREAL ENGINE
- Meet@Develop Meeting Zone
- Indie Showcase sponsored by unity
- Close of conference drinks in the hotel bar from 6pm
- Cooperative Innovation's Develop Party in aid of SpecialEffect from 8pm

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Mass Effect: Andromeda Audio Retrospective
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Boyd Multerer

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Tears of Joy in Star Wars VR: Creating Battlefront's X-wing VR Mission
James Svensson and Kieran Crimmins, Criterion Games

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Simon Barratt, Cooperative Innovations

FREE: 5 Key Components of Discoverability for Indies
Haley Uyrus, Failbetter Games

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Jess Hider, Unreal Engine

I love coming to Develop:Brighton it's a great chance to network, tell people what you're up to, have meetings, do business deals... also go to some great talks from some of the best speakers around. I can't imagine not coming.
Patrick O'Luanaigh, CEO, nDreams

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HEARD ABOUT

GET EVEN

John Broomhall
talks with composer
OLIVIER DERIVIÈRE

In this era of big-budget live recordings captured and mixed at world-class facilities by the recording industry's finest, with methodologies and accompanying tech established to achieve so-called 'interactive music', it's easy to forget just how far videogame scoring has come since the rudimentary midi-driven sounds of the early nineties.

That said, even back in that faraway decade (and in spite of prevailing technical limitations), some seriously interesting experimentation took place with interactive and adaptive techniques which conceptually went beyond many of today's productions. Eschewing attempts to shoe-horn in the grammar of linear film music, some composers nurtured a thoughtful sense of music 'design', treating videogames as an entirely new artform requiring its own unique and distinct approach to a new non-linear form of scoring and its associated in-game delivery.

Olivier Derivière's composing journey on multi-layered, enigmatic and intriguing *Get Even* reminds me of that spirit. His passion for innovation and deep integration of music into the very DNA of the game was amply demonstrated by *Remember Me*, but this new and intimate collaboration with The Farm 51 goes to another level - and in today's powerful run-time computing world, he's able to marry radical music design thinking with high quality midi-triggered music instruments/segments, sound effects and superb Abbey Road linear recorded strings, meaning it's very sonically pleasing.

Olivier: "I turned down a lot of other things to do *Get Even* - it's like nothing I've ever scored before - unique in approach - I had to be part of it! Music here is not primarily 'illustrative' and it's not just a part of the audio. Videogames are not about storytelling in my opinion – yes, there is storytelling and it's important - but it's about the experience you're going to have - it's a game. *Get Even*'s music is deeply embedded in that game experience in subtle and unifying ways. Although not a VR game, the events are happening in fictional VR and 'illustrative' music isn't right for that."

Interesting. So imagine anything around you in the game is musical – anything. Start with a room tone pitched at C and build on that. Say you have light bulbs buzzing – also in C effectively as part of a music arrangement. Ditto many other sounds which build and build surreally yet subtly harmoniously. As a player, you're not thinking about that as you progress from room to room yet it has emotional and immersive impact. Plus there's the tempo dimension with 'musical' sound effects (e.g. characters knocking on a door) timed to the 'music' - even to the extent of the music meter determining animation/game event timing - and the tempo can also change dynamically. Then think about hearing sounds (or music motifs) in an abstract way (say dramatically pitched down yet still part of the music 'system'), which gradually move from being disorientating and/or disturbing into focus and original pitch at key narrative points making you think – ah, that's why I was hearing that before. Finally, add 'real' emotive music 'speaking' at vitally important moments but for valid story-related reasons, and you start to get some idea of the deep – there's that word again – deep subliminal integration and therefore crucial role of the *Get Even* score - truly at the heart of the experience. It's complicated. To say much more would give the game away, but maybe the book on how you do game music isn't quite finished yet...

Olivier reflects: "Audio is such a big part of this experience. For instance there are lots of audio clues you don't understand at first but when you're at the end it all comes together - it's magical. I think music for games will change in the future - it won't be just about handcrafting a score, it will be more like scoring with the environment itself. Composers need to approach music as an actual component of the experience not merely an illustration, and with VR it's like there's an open door – so let's go there." ■

John Broomhall is a game audio specialist creating and directing music, sound and dialogue
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FINDING THE BEST **TUNE**

Audio is a very specialised area of the games industry. Some designers have been doing it for decades. So how did they get their jobs, and what do they look for when hiring new audio designers? **Sean Cleaver** asks UK studios and outsourcers for their advice and experiences

Sounding Sweet's Ed Walker recording trackside audio

When you get a job in the games industry, you usually have a general idea of why you wanted to get that job in such a specialised field. Maybe you want to draw some fantastic characters, design memorable levels or even write a neat story into a small book in a large RPG.

Working in audio, however, can be quite different. It can be a very time and cost intensive area of development and the need for expertise and investment in technology can be great. Unlike other games jobs, there isn't an obvious or direct route into working on game audio.

Many studios now have their own in-house audio production facilities and need qualified staff to operate them. This can be difficult for employers looking for the right person with the right knowledge, especially in an industry that evolves as fast as gaming does. So how exactly do you get in? For many, it's down to a life time love of all things audio.

"I was lucky, way back in the 90's I answered a local newspaper advert for a place called Gremlin Graphics," recalls Pat Phelan, audio director at Sumo Digital. "The advert said that they were looking for a musician to work in house on their games. My background was as a programmer, but I played regular gigs with various bands at that time. I also had a massive interest in video games, in particular the music they made. The musicians in those days were expected to do the audio design too. I naturally migrated towards sound design rather than music."

Frontier's Matthew Florianz's introduction to audio came at a very young age. "At seven years old, I had convinced myself that Han Solo had a real blaster-pistol," he says. "That fantasy came crashing down when a Star Wars documentary showed Ben Burtt banging a metal cable for his laser sounds. It was one of those naivety-born disappointments that would later become a fascination. I ended up in games almost by accident. I joined a web design company in the early 00s, and the owners were really keen on video games. Word reached our CEO that a Dutch publisher was looking for content. Our company got in contact and presented a document and within a few months we were working on our first game."

For others, the route into audio was just a beat away from studying. "I joined after graduating from university where I studied music technology," says Playground Games' lead audio designer, Douglas Watson. "It's a cliché, but I seemed to be in the right place at the right time. I have always had a passion for games, so being able to apply my audio skillset to a format that I loved was a no brainer."

"After graduating I started out in QA," says Codemasters' senior producer, Mike Tebbutt. "From there I branched out over time into various development and production roles. Several of my jobs have involved managing or producing audio as part of my responsibilities."

TUNING UP

The cost of running an in-house audio department is not cheap, so studios need to make sure that they have the right people who are ready to use the technology at hand. What kind of skills do you need to get an audio role at a studio? That depends on the technology the studio uses and where the developers place audio in their production priorities.

"In some studios audio used to be an 'end of chain service provider'," says Frontier's Florianz. "This is fast becoming an exception for in-house teams as we become an integral part of pre-production and involved in the concept phase. Audio work is moved from a one-to-one relationship (where something happens in-game, audio triggers a sound, sound plays on a pre-defined object) to being more data- and procedurally-informed.

"Members of the team work in DAW's such as Cubase, Vegas, Pro-tools, Live, Soundforge and Reaper. We try not to get bogged down by tech, as we believe that creative, communicative people have all the tools to solve hardware and software problems; they know how to

ask for help! For implementation we use Wwise, which is pretty straightforward but does benefit from expertise."

"At Playground we have two 7.1 mix rooms and one 5.1 edit suite," explains Playground's Watson. "Someone looking to work in game audio should already have a strong knowledge of multiple digital audio workstations and a keen ear.

"In-house audio designers are able to integrate and work closely with the wider team on a daily basis, that isn't always possible with a distributed team. This enables audio designers to be included in the design process and apply their passion for sound to shape the project."

"Being in-house means that you are a real part of the team," says Sumo Digital's Phelan. "You get to live and breathe the game within the culture of the team. Having that sense of ownership, being able to work with coders and artists directly in order to bring substance to your vision is vital; and it is why we like having our audio designers in house and working directly with the teams.

"We mostly work with PCs running Nuendo and a whole swathe of plugins. The useful thing about Nuendo is that it syncs with Wwise very nicely. Some of the guys here prefer Reaper so we're keeping an eye on that too. We have a bunch of field recording equipment and an in-house studio where we record the source for most of our audio design. Understanding how to use new hardware/software is less important to me than having someone who understands how to create fantastic audio."

> **One mistake is to re-score trailers for triple-A games. Having your work compared to the very best doesn't always work**
> *Matthew Florianz, Frontier*

Not everyone has the same requirements, however, as Codemasters' Tebbutt explains. "As we work on quite a realistic sounding game the audio team doesn't tend to have much use for hardware synthesisers and our mixing desks are all software based.

"In fact, the only hardware we really use are development kits. That said, most of our hardware comes in the form of recording gear, from microphones, windshields and recording devices, which we take on location to capture the sound of the F1 cars, tracks and garages."

HEARING THE SOUNDWAVE

So far, you'd be hard pressed to find a definitive answer for how you should approach looking for work in games audio as, demonstrated by our contributors, everyone's needs are very different. So it's difficult to create a showreel specifically for any project.

However, one thing that doesn't change across all of the studios we talked to is having an ear for audio and getting experience. "Someone looking for their first audio design job would probably need some sort of degree in an audio related discipline," says Sumo Digital's Phelan. "They should have a good portfolio of work that demonstrates their understanding of manipulating sound.

"Most importantly, passion is needed," says Phelan. "Audio is always last on everyone's list and the only reason there so many awesome sounding games out there at the moment is because passionate, capable individuals are willing to push even when nobody else cares. It's a tough gig, the amount of high talent out there makes this a buyers' market. I'd suggest you try and develop your identity and style, be authentic and true to yourself and never ever undersell your services!"

"Audio can be very abstract," says Frontier's Florianz. "Even where it's in direct support of the game. Designers have to be able to imagine the player's experience. A strong portfolio doesn't require an explanation (though don't hesitate to explain your thinking in an accompanying document). We tend to like bold choices, attention to detail and concise presentation.

"One mistake, especially made by enthusiastic juniors, is to re-score trailers for triple-A games. Chances are that audio guys / gals will have seen that trailer. Having your work compared to the very best in the industry doesn't always work in your favour."

For Codemasters, Tebbutt's requirements are more specific. "We ask applicants for an audio-related degree and a decent, relevant portfolio. Applicants should really tailor their portfolio and CV towards the company they are applying for. For us, any high quality racing-related work normally goes down well."

"Most audio designers have some kind of music background and, like other creative disciplines, I think a strong showreel is key," says Playground's Watson. "This should be used to showcase the very best of your work. Most importantly, you need to have a passion for games and sound.

"One thing I always say to people is do your research. If there is a game or a movie that you love the sound of, then

(L-R) Douglas Watson, Pat Phelan, Mike Tebbutt, Matthew Florianz and Ed Walker

try and find out about who designed the elements that you like and how they were made. Often, this will lead you down a path of discovering new techniques that you can utilise when you're working on your show reel."

"At the beginning of your career you are probably worried that what you have isn't enough to show," adds Frontier's Florienz. "Resist the urge to over compensate, one really good example is better than adding anything that detracts from this. Quality is king, quantity not so much.

"Also, play a lot of games, especially those that are talked about in game audio circles, podcasts or that have won awards. Be analytical when you play games or watch films, even when you are just out and about: Always be listening."

ALTERNATIVE KEYS

While some developers may have the budget to invest in their own audio studios in-house, others may not, or might need to branch out in order to get their audio finished. What do you do in those situations? One such place that offers this kind of outsourcing service is UK-based Sounding Sweet.

"Using an audio outsource company enables a developer to scale their business in-line with the project requirements and schedule," says MD and audio producer at Sounding Sweet, Ed Walker. "It also gives them access to highly skilled and specialised audio professionals that have specific expertise in certain areas that may not be available in-house.

"Full-scale industry standard audio production facilities are expensive to purchase and maintain, therefore it often makes financial sense to hire an audio outsource company with the necessary facilities to provide recording alongside critical stereo and surround sound mixing work."

Walker also hires new audio designers, as do many creative outsourcers. That means that not only are jobs available outside of development studios, but the jobs you can be working on might be more varied than those of a studio. So what does Walker look for in his prospective employees?

"The three most important aspects I look for when recruiting an associate audio designer are: an analytical ear, a willingness to learn and an extraordinary passion for sound," he says. "Playing games and analysing audio production techniques is something we do every day.

"A question often asked at interview is 'what games are you currently playing, and what have you noticed about the sound?'

"In game audio, roles are often combined, which provides a great opportunity for an individual to work on a wide range of audio tasks.Working on a variety of jobs should appeal to anyone with a passion for sound. ■

MOVERS AND SHAKERS

The latest high-profile hires and promotions

BOSSA STUDIOS

Former Ansible PR founder and Green Man Gaming head of PR and communications, Tracey McGarrigan has joined Bossa Studios as CMO. "Tracey is one of these rare people who are able to swiftly move on from dogma to breakthrough, finding unique ways of engaging with our communities wherever they are," said Bossa CEO Henrique Olifers.

KUJU ENTERPRISE

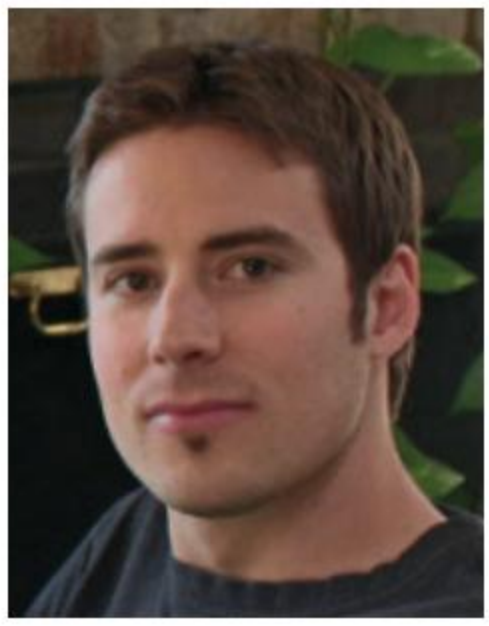
Mick Morris, the founder of Audiomotion, has joined Kuju Enterprise. Morris will focus on VR experiences under new head of games Brynley Gibson. "With Mick's wealth of experience, it will allow us to increase our scope and ambition in what we are looking to achieve," said Gibson.

MICROSOFT

Dan Ayoub, who was previously studio head of *Halo* developer 343 Industries, has moved within Microsoft to join the company's mixed reality team. According to the Halo Waypoint blog, Ayoub will now be working on the 'the empowerment of education through techonology. Ayoub joined 343i in 2009 and has worked on every *Halo* game since.

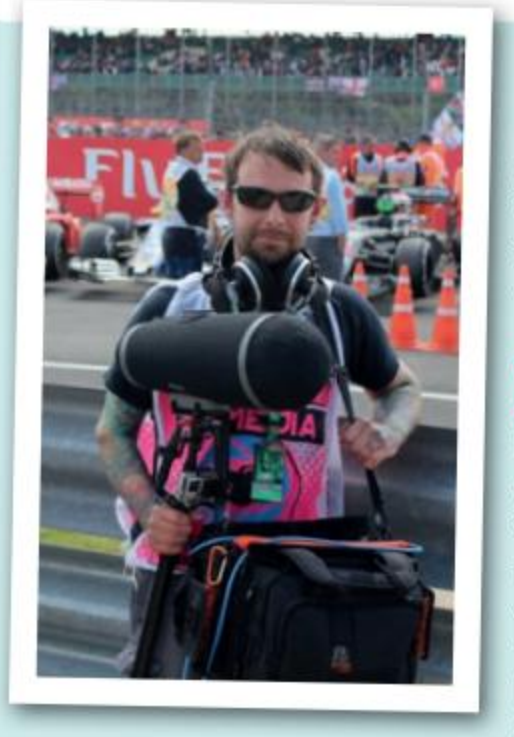
PARADOX DEVELOPMENT STUDIO

Firaxis lead designer Jon Shafer has joined Paradox Development Studio to head up a new 'grand strategy' game. Shafer, who was announced as joining the company at PDXCon, was previously lead designer on *Civilization V*. He has also worked on *Civilization IV*'s expansion. For the last four years, he has been owner and CEO of Conifer Games.



GET THAT **JOB**

This month: Brad Porter, Formula 1 audio lead at racing game developer Codemasters



What qualifications and/or experience do you need?

15 years ago or so, many audio designers were taken on with little-to-no qualifications - but today, setting yourself apart from the rest is more important than ever - so qualifications are a must.

In terms of experience, that really depends on the job role. Experience with common software such as Soundforge, audio middleware like Wwise or Fmod, and audio library software such as Basehead are also really good to have under your belt, regardless of the level you are going in at.

In terms of the audio lead role, that's normally a position you'd work your way up to based on experience, years in the industry, and a vacant position. I started in the industry with a degree in music technology but I had basically no experience with game audio. I worked my way up the ranks at Codemasters, and almost a decade later a lead role opened up. In previous roles (and still today) I was big on organisation, documenting workflow and processes, training new starters and fixing and simplifying audio systems. I think these are good strengths to have in my current job role.

If you were interviewing someone, what do you look for?

It depends on the job role we are looking to fill. Our junior designer was taken on last year and he had no professional experience - but as a general rule of thumb for juniors, I'd be expecting applicants to have a related degree – so something music tech based. With fierce competition and more applicants than there are jobs, I'm increasingly seeing applicants with Master's degrees! If we were hiring for something like an experienced or senior role, typically I'd be expecting the applicant to have put in several years within the games industry and have credits on at least one or two titles.

> **I was big on organisation, documenting workflow and processes. I think these are good strengths to have**

What opportunities are there for career progression?

I guess I'm a good example of career progression, as I started at Codies immediately after my degree as a temporary QA technician. I've built my way up through audio from an 'associate' audio designer to a project lead. It's taken time and I've had a big learning curve, so I've had to work closely with my peers to pick up the various skills I've needed along the way. There's certainly a lot of variety in what we do and plenty of opportunities to specialise and diversify, as well as working your way up the ranks.

We're encouraged to take many opportunities, from recording Hypercars in Italy, to F1 in Bahrain, to learning new tools and software, to interviewing applicants for new roles, to managing your own staff. ■

SKILLS AND **TRAINING**

This month: Dr. Hamish Carr of the University of Leeds tells us about their courses and addressing the skill gap needed for VR development

The University of Leeds has over 33,000 students from 147 different countries. It's one of the biggest higher education institutions in the UK and is The Times and The Sunday Times University of the year for 2017.

"The University of Leeds courses offer the technical skills required by games programmers as distinct from the design skills required by the industry," says senior lecturer, Dr. Hamish Carr. "The courses build on the University's expertise in computer science as identified by the industry's own analysis.

"There's an urgent and growing need for skilled graduates with the technically deep skills which parts of the industry demand. While there are plenty of university courses that teach students how to develop games using off-the-shelf engines, there are very few courses in the UK that teach the student to build innovative game render engines.

"This involves software engineering, concurrent parallelism, fundamental rendering models, geometric techniques, animation and simulation. These skills are needed for the next generation of entertainment, including the VR and AR industries with their increased graphical requirements. It is this skill gap that we're addressing.

"Our courses were developed in collaboration with an industrial steering group including Epic Games, NVIDIA, Team 17 and Sumo Digital. The University of Leeds is also a member of Game Republic, an industry-led professional games network supporting Yorkshire and northern England's games sector."

The students on the University of Leeds courses not only get these benefits but also some of the most up to date technology in the field of Virtual Reality, thanks to the University's research environment. "Students will benefit from getting directly involved in research projects and having access to specialist facilities including high end workstations, hardware such as Oculus Rift and HTC Vive headsets for experimenting with virtual reality technologies and Epic's Unreal Engine 4 for learning games engine design and exploring new rendering techniques." ■

Overview: The University of Leeds offers Computer Science with High Performance Graphics and Games Engineering MEng, BSc and High-Performance Graphics and Games Engineering MSc.
Address: University of Leeds, Leeds, LS2 9JT, UK
T: +44 (0)113 2431751
E: https://application.leeds.ac.uk/enquiryform/
W: www.leeds.ac.uk

RECRUITER **HOT** SEAT

Jill Wallace, head of personnel and facilities at Axis Animation talks to Develop about what it's like working for the studio, the perks, and the increase of talent being hired from overseas

What differentiates your studio from other businesses?

Axis offers a diverse range of opportunities across our 3 sites in Glasgow, London and Bristol. Covering TV, games, film, commercials, theme parks, experiential and VR content, we offer something for everyone, both staff and clients alike. Collaboration, creativity and striving for excellence are at the heart of everything we do.

We're very results oriented so our teams don't just want to get the job done, they want do it and make it look awesome. Further, we aim to get it done mostly within normal working hours, so encourage and actively facilitate a good work life balance.

All this makes for a rewarding atmosphere to work in, which is why we have a low permanent staff turnover.

How many staff are you currently looking to take on? And from what fields?

Our wide range of projects and production schedules mean we're always hiring, from entry-level assistants and junior artists, to CG supervisors, producers and directors. If you're insanely talented, we'll do our best to find an opportunity to work with you.

What opportunities and perks are available to those working at the studio?

The working atmosphere in our studio is pretty relaxed, which our team appreciate, and we find it results in the work getting done to a high standard and people enjoying themselves while doing it.

The opportunity to work on a variety of styles and genres of projects is a huge appeal to our team, including work on full CG games trailers, live action/CG TV commercials, high profile TV shows and full CG feature films across a range of visual styles from graphic and illustrative to photorealism. We offer private medical insurance and have the fun perks added on top such as a stocked kitchen, free fruit, cinema nights, summer parties, monthly screenings with beer and more.

In addition, we run regular master classes offering advice and insight from industry veterans such as Dreamworks' Dave Burgess as well as our internal team running training classes for those wanting to widen their skillsets.

What should aspiring new recruits do with their CV to get an interview?

Generally, it's less about your CV and more about your portfolio. Don't get me wrong its useful to understand your working history and experience, however most of our hires are based on having an awesome portfolio.
It is worth noting that speculative applications are very welcome. Even if we don't have a vacancy at the time you apply, if you're shortlisted, you'll be added to our "to hire" list and we'll be in touch as soon as a suitable spot arises for you.

> **At the moment, I'd say 70 per cent of our staff are non UK Individuals**
>
> *Jill Wallace, Axis Animation*

What advice would you give for a successful interview at your studio?

If you're selected for interview, more often than not we'll have made up our mind on your creative, technical or project management abilities so the purpose of the interview is to get to know you and understand if you'll fit with the culture, values and work environment of our studios.

Every interview is unique and most of them are conducted via Skype as a lot of team members are from Europe and beyond, so often we don't meet in person until they're hired and arrive.

CURRENTLY HIRING

Company: Axis Animation
Location: Glasgow, Bristol, London, UK
Hiring: Artists, Animators, and more
Where to apply: http://www.axisanimation.com/jobs/

The best way to impress us is by having an awesome portfolio, a confident can-do attitude and showing that you're passionate and love doing what you do. However, be careful that confidence doesn't come across as cocky or arrogant. It's important to engage with the interviewer and do your homework on the studio. Also ask questions, it's amazing how many people don't take that opportunity.

If you have recruited internationally what is the process like?

We have increased our international recruiting significantly over the last couple years. At the moment, I'd say 70 per cent of our studio staff are non UK individuals.

We're an A rated sponsor and so have multiple Tier 2 Visa and Tier 5 Visa sponsored individuals from across the world working with us. We offer as much advice and assistance as possible to aid the relocation to a new country including providing a Welcome Pack, which includes information on transport, banks, accommodation and healthcare among other things.

How have your recruitment needs changed at your studio?

We always have and always will need a wide range of talented artists, managers, directors, designers and producers to work on our diverse range of projects. What has changed, however, is our ability to make better hiring decisions and offer longer, more stable contracts. ■

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ASK AMIQUS

Liz Prince, business manager at recruitment specialist Amiqus, helps solve some of the trickier problems job seekers currently face in the games industry

Q What are the challenges in finding work abroad and how can they be overcome?

One of the best things about the games industry is that it's truly global and professionals have a huge choice of locations to work in, not only within the UK but also overseas. International relocation can be a fantastic adventure, but it takes time and preparation. Here are a few things to think about for a smooth transition into working abroad.

A great place to start is to think about your motivations for leaving the UK in the first place. What are you hoping to achieve by the move? This could be career advancement, lifestyle change or simply wanting to gain some life experience. Depending on your motivations, you might be focused on moving to a particular country, in which case there may be some compromise on what role you will consider to get there. Alternatively, you may be seeking the next step up in your career and would look at any location in order to secure the right role. For most people the balance is somewhere between the two, so form a tick-list of what you want and don't want from a move, and set about researching a match.

A country's geographical features include language, culture, climate, seasonal light patterns, volcanic activity and distance from your home-country relationships. None of these factors will change. If you move to Japan for example you can expect regular ash clouds, a rainy season and earth tremors as part of normal life. However once in-country many other details will need to be factored into your choice. These include accommodation options, cost of living, taxation, healthcare, typical working hours, national holidays, flight logistics, food, lifestyle and culture – not forgetting the right employer of course! Wherever you choose, you'll also need to look into how you will secure eligibility to work in your location of choice. A good recruiter can help you here, as well as some Googling. Within your country options you'll also need to have a think about the type of environment where you want to live - country, town, suburb, city or coast. Most people find a studio of interest first and then build up research around the locality organically as they get down the track with a prospective employer, gathering increasingly detailed information throughout the recruitment process.

> **In our experience the challenges around moving can be overcome armed with the right information and a realistic plan**

Before you start making solo choices however, it's a good idea to consider who would be coming with you and begin early discussions with them. This will include people moving with you, but your move could also impact those left behind. This is particularly important if it's your first step away from a home environment since University – will parents support your move? If moving with a partner, is their profession in demand in the country you're thinking of living in and how quickly could they secure a job?

Timing is a key consideration and often people feel they have an opportunity to work abroad early in their career before domestic and financial commitments kick in. Others relocate complete with families and this can be a great way to live a fulfilling professional and family life. The more people who will move with you, the more preparation you will need to do, particularly if this involves dependants. As well as local schools there are many international establishments across the world running the British GCSE curriculum providing a home-from-home education taught in English. These are usually paid and prices vary greatly from country to country, so you may need to plan in some visits to find a school you like and can afford. If taking the plunge into a different language, find out the predominant tongue in the studio and consider whether you or any of your party would need some lessons before you go.

Salary is a core need for most but it can be challenging to gather a realistic figure of what you're going to need to earn in a new location. Not only must this be translated into another currency, but taxation, rent, groceries,

amiqus Visit **amiqus.com** for a fresh perspective on games recruitment

nights out, energy costs, health insurance etc. all need to be factored in to see what you need to sustain the lifestyle you want. This is on top of the usual understanding of the market value of your skills and experience, which is a feature of any job move. Skills can have different market values in different countries too so direct comparisons with your current salary can be tricky to benchmark. A good recruitment agency will be able to guide you here so that you don't put off your target employers by pitching in too high (or low), so be sure to get in touch with people who have knowledge and experience of the international job market. Ask about relocation packages too as this can offset your salary demands to help cover the one-off expense of a move.

Once you've got started with applications, studios typically use Skype for a first interview. It's important to treat voice and video calls with as much preparation as any other interview, so be sure you have a suitable tech set up with a neutral, professional background for a webcam and can take a call uninterrupted. If you do travel to a face to face interview it's important to politely establish who will be covering the cost and whether this will be on an expensed basis using receipts that you claim back or paid up front. In our experience most studios pay for travel expenses, however it cannot be assumed and before 'qualifying' for this there may be several stages (calls, presentations or tests) prior to a face to face invitation.

On occasion studios are willing to make offers of employment without meeting in person. There are pros and cons to this approach, and you would need to consider whether you'd be happy to take a job when you've never actually been on site. If you are speaking direct then this is something to ask them about at interview stage.

When visiting the studio, make the most of your visit and plan to fit in some in-situ research to get a good feel for the place. If possible check out the area at different times of day, including the traffic and public transport practicalities. Relocation is a big commitment on both sides, and games studios feel a weight of responsibility, especially if they are working through the visa process for you to join them.

In our experience the challenges around moving can be overcome armed with the right information and a realistic plan. Some things will inevitably be outside of your control such as awaiting VISA approval, but as long as they are factored in there's no need for these things to cause stress. Our candidates tell us that one of the biggest challenges is the general 'unknown' of living in a new country, this is where a leap of faith is required to make that final decision. There's always going to be some trepidation but it doesn't have to be forever and people tend to regret a move they didn't make, rather than ones they did. The great thing about the games industry is that multiculturalism and an international outlook go hand in hand with this boundary-pushing, creative sector. creative sector. ■

Liz Prince, business manager at recruitment specialist Amiqus, helps solve some of the trickier problems job seekers currently face in the games industry

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The develop POST-MORTEM

Sean Cleaver sits down with Ghost Town Games to find out how the two-man team made a BAFTA award-winning co-op experience and how touring it around conventions gave valuable feedback

As someone who has worked in a kitchen, albeit briefly, there are many words I could use to describe the experience. None of them are safe for work. "I've worked in kitchens before," says Ghost Town Games' Phil Duncan. "*Overcooked* was just like that experience, you know, it's this feeling that you're all in it together, even if you're all shouting at each other when we're working in a kitchen. Obviously, there are a lot of similarities between games, because you are working against the clock. You are trying to get each dish out as quickly as possibly and to an adequate standard, in the case of the restaurant I was working in."

This comes full circle with *Overcooked*. Published by Team17, the game made by the two-man team of Duncan and Oli De-Vine has won much critical acclaim. The game started life, as many things do, over lunch.

"We were both working together at Frontier Developments, explains Duncan. "Oli was a coder there. I was a designer, and I think it came about because we used to meet up at lunch time, so we'd play basically any kind of local multiplayer games we could get our hands on.

"There was a group of us that would gather in a room, and we'd all gather around a TV with any console we could find, any games, and I think there was just a feeling that there was a type of game that we wanted to play that didn't exist yet."

"When you're looking for local multiplayer games to play, you discover that they die out after a certain time period and you run out of ones to play pretty quickly," explains De-Vine. "We wanted more of them basically. So, we tried quite a few different little prototypes of local co-op things that we wanted to play, where everybody is doing things simultaneously. You didn't feel like you were competing with the gameplay itself, and we ended up stumbling on to *Overcooked* as a formula that worked."

"We wanted a game which was much more about how a team coordinated and cooperated," says Duncan. "And cooking seemed like a really good analogy for that."

Getting to a stage where the idea for *Overcooked* was exactly what the duo wanted took a while. "We did try a lot of different games before we made the jump," says De-Vine. "I think it was something with *Overcooked* where we got to the loop of it really quickly, which was surprising.

"We took it to a game expo in Norwich and got some people playing. You could certainty see all the potential, and suddenly have lots of ideas for levels, and it starts to become a real thing. That was when we realised we need to do this."

So what was that early build like? "Oh. Ropey," answers De-Vine

"Yeah, super ropey," adds Duncan. "There were about eight or so levels, maybe, and it didn't have many mechanics in there. We didn't have any of the restrictions in place, so you could pretty much do whatever you wanted with any of the ingredients. So you'd be able to add an extra onion to a pot, or half chop something. There was lots of standing over peoples shoulders saying 'you can't do that'."

"It was a lot less intuitive," says De-Vine. "We had more of a focus on recipe construction than we did on the environmental side of it. What we discovered when we took it to conventions was people were less interested in the recipes than we thought they were and were much more interested in the level, the sort of environmental puzzle element. So we expanded that a bit more than we were originally intending to."

TOO MANY COOKS

One of the early parts of the game that was very different was the timer. Originally, the game had a different method of finishing a level – death. Losing a dish meant losing a life.

"It was more of a survival game," explains Duncan. "It was just how long can you stand before you run out of lives, and we found that people got a bit bogged down. Then you had a certain number of lives and then if you survived over a certain period of time with all your lives intact, then you'd pass. If not, you failed."

The timer mechanic won out over the lives idea, something that was learned from the many conventions and expos Ghost Town attended. Nothing is more indicative that something is working than seeing the actual panic on peoples faces.

"I think that was always part of it, to make sure there was panic there," says Duncan. "The very basic design of the game is having too many tasks with the amount of players you have, and then these upper-level nuances that bring about that panic. I think some of it is the fact that there's many timers within *Overcooked* and the whole thing can unravel fairly quickly.

"Going back to that early prototype, something we noticed a lot was people would occasionally figure out the puzzles and level and then just do the same task over and over again, so we did a lot to disrupt the players."

"You want people to have to change around what they're doing a little bit during the level," adds De-Vine. "So we did a lot of things with the level moving around to get people out of position and things, just so you didn't get into a routine."

KITCHEN NIGHTMARES

One of the qualities of co-op gaming is the level of entry. *Overcooked* is a game the whole family can play and has a simple, easily readable, number of tasks - chopping, boiling, frying and even baking a limited number of ingredients. Keeping that level of difficulty balanced was another challenge for the new team.

"Part of that balance was trying to make sure that players weren't inundated with complex interactions," explains Duncan. "They just had a small subset, they didn't feel completely swamped. Another part of it was level layouts, because we didn't want levels to get too sprawling and for the camera to pull all the way back."

"A big limitation was UI," says De-Vine. "We were trying to find a way of communicating recipes efficiently to players, without them having to refer to a lot of steps. There aren't really a lot of games that try and communicate that kind of information to players. We were trying to invent a language for doing that. So every time we introduced a new recipe, there had to be a pulling back of how difficult the environment was a little bit, so we had to balance that."

Another part of the game that almost didn't make it was the ability to have two people playing on one controller. "That was quite a tricky one," says Duncan. "Because at that point we were still worried that we were making this local multiplayer game, and we weren't sure how many controllers people have these days. Whereas, in the days of the N64 you were fairly confident people had access to four controllers. I didn't know anyone who had four PlayStation 4 controllers. "

The split controller system was hard to communicate, not just to the player, but certification too. "We never got told whether we should or shouldn't do split controllers," says De-Vine. "I will say, from a certification point of view, because there's no other game that I'm aware of that does have split controllers, it wasn't something the process was quite ready for. It was quite a lot of interaction between ourselves and the production and QA department at Team17 to do it."

> **Someone took the fire extinguisher and just threw it in the bin and the kitchen caught fire**
>
> *Phil Duncan, Ghost Town Games*

"Nobody gave us any advice on that front really," adds Duncan. "We certainly heard that people had some misgivings about local multiplayer. 'Oh, I'm not sure that there's a market for that anymore.' Well that's the kind of game we really want to play, and it's something we're crying out to play. The consoles obviously aren't set up completely for it. Now you've got the Switch coming in, they're a bit more open to that kind of thing, but we did get through it."

MICHELIN STARS

Overcooked has won two BAFTA awards. For a debut game, from a debut studio, this is an incredible achievement. The project started back in 2015 so for the game to have come so far in just 18 months is quite astounding. The team is currently working on the Nintendo Switch port of the game so for Duncan and De-Vine, the work isn't finished yet and they are still learning. "When we've finished one task and stick our heads up above the sand, I'm like, 'right, what's the state of play right now?'" says Duncan.

"We knew that we enjoyed working in a small team I think, even at Frontier, because it was the kind of company that would occasionally break off into little splinter groups. I think both of us had experienced with teams of like 30."

"The one thing I would say that's different that took us a bit by surprise was we didn't really think about the non-development parts of running a studio," admits De-Vine. "Neither of us had any kind of administration-type experience, and there was a lot of that, which started to sidetrack us a bit, and we had to find a way of dealing with that, which wasn't going to get right in the way of the development."

Taking the game out to conventions really helped the team focus on what they do best, making a co-op game that people enjoyed. "One of the things I think that we did right with the game is the fact that we took it to so many conventions," says Duncan. "We got to see people actually playing the game, rather than keeping it to ourselves, and seeing that fundamentally there's some really big problems.

"There was a great moment in the first convention we took it to actually, in Norwich, where someone took the fire extinguisher and just threw it in the bin. It just disappeared, and then the kitchen caught fire. Just a really weird moment, because it's like 'oh, yeah I guess you can do that'." ■

NEXT ISSUE

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